Santa Clara Valley
Water District

CVPIA
Water Conservation Plan
December 2005

Prepared for the United States Bureau of Reclamation as required by the Reclamation Reform Act of 1982 and the Central Valley Improvement Act (CVPIA) of 1992

SANTA CLARA VALLEY WATER DISTRICT
WATER CONSERVATION PLAN 2002

Prepared by
Pat Showalter
Senior Project Manager

With Assistance From

Behzad	Ahmadi	Groundwater Protection Unit Manager
Terri	Anderson	Senior Engineer
Hossein	Ashktorab	Water Conservation Unit Manager
John	Bozzo	Field Operations Administrator
Glenna	Brambill	Management Analyst II
Jim	Crowley	Engineering Unit Manager
Jerry	de La Piedra	Senior Water Conservation Specialist
Mike	Duffy	Well Measurement Unit Manager
Ellen	Fostersmith	Assistant Engineering Geologist II
Sherwood	Garcia	Project Assistant
Marty	Grimes	Program Administrator
Barbara	Judd	Senior Engineer
Stacy	Klopfer	Senior Management Analyst
Margie	Marquez	Project Assistant
Becky	McCullough	Water Measurement Unit Manager
Jeff	Micko	Operations and Planning Unit Manager
Ellen	Mody	Senior Hydraulic Systems Analyst
Judy	Nam	Associate Civil Engineer
Celia	Norman	Senior Office Specialist
Brian	O’Mara	Field Operations Administrator
Rick	Rodriguez	GIS Specialist
Linda	Schafhauser	Water Plant Supervisor Grade V
Robert	Siegfried	Associate Engineer, Civil
Kate	Vernon	Management Analyst

Prepared Under the Direction of
Joan Maher
Imported Water Unit Manager

Keith Whitman
Deputy Chief Operating Officer – Water Supply Management Division

Walt Wadlow
Chief Operating Officer – Water Utility

Stan Williams
Chief Executive Officer

TABLE OF CONTENTS

Page
List of Tables and Figures ………………………………………………………………… I-v
Overview…………………………………………………………………………………… I-vii

Section 1. Description of the Santa Clara Valley Water District

A. District Demographics ………………………………………………………….. **1-1**
  A1. History
  A2. District Size
  A3. Water Supplies
  A4. Water Contracts
  A5. Anticipated Land Use Changes (i.e., Agricultural to Municipal, etc.)
  A6. Cropping Patterns
  A7. Major Irrigation Methods
B. Location and Facilities …………………………………………………………….. **1-9**
  B1. & B2. Agricultural and Urban Water Conveyances
    B3. District Storage Facilities, Including Capacity & Location
    B4. Spill Recovery System
  B5. Delivery System Operation
  B6. Restrictions on Water Sources
  B7. Proposed Changes or Additions to Facilities and Operations for the Next Five Years
C. Topography and Soils …………………………………………………………... **1-14**
  C1. Topography of the District
  C2. Soil Associations
  C3. Limitations Resulting from Soil Problems
D. Climate ……………………………………………………………………………... **1-15**
  D1. General Climate of the District
  D2. Impact of any Microclimates on Water Management within the District.
E. Natural and Cultural Resources ………………………………………………… **1-16**
  E1. Natural Resources
  E2. Management of Natural Resources
  E3. Recreational and Cultural Resources
F. Operating Rules and Regulations ……………………………………………… **1-18**
  F1. District’s Rules and Regulations
  F2. District's Agricultural Water Allocation Policy
  F3. Official and Actual Lead Times Necessary for Water Orders and Shut-Off
  F4. District's Policies Regarding Surface and Subsurface Drainage from Farms
  F5. District's Policies on Water Transfers by the District and Its Customers
G. Water Measurement, Pricing and Billing ……………………………………… **1-19**
  G1. Water Measurement
  G2. Water Pricing and Billing

Table of Contents

Page

H. **Water Shortage Allocation Policies** 1-26
  H1.Current Water Shortage Policies
  H2. District's Current Year Policies that Address Wasteful Use of Water, Including Information on Enforcement Methods.

Section 2. Inventory of Water Resources

A. **Surface Water Supply** 2-1
  A1. Local Surface Water Supply
  A2. Imported Water Contracts
B. **Groundwater Supply** 2-3
  B1. Acre-foot amounts of ground water pumped and delivered by the District
  B2. Groundwater Basins that Underlie the District
  B3. District-Operated Wells and Managed Groundwater Recharge Areas
  B4. Conjunctive Use of Surface and Groundwater
  B5. Management Plan for Groundwater Subbasins
  B6. Description of the SCVWD Groundwater Banking
C. **Other Water Supplies** 2-6
D. **Source Water Quality Monitoring Practices** 2-7
  D1. Surface Water Quality Problems: How Quality Problems Limit the Use of Source Water
  D2. Urban Districts—Annual Customer Water Quality Report
  D3. Agricultural Districts Concerns
  D4. Current Water Quality Monitoring Programs for Surface Water
  D5. Agricultural District Current Year Total Dissolved Solid Range
E. **Water Uses within the District** 2-12
  E1. Agricultural
  E2. Urban
  E3. & E4. Urban Waste Water Collection and Treatment Systems Serving the Entire District Service Area (E3) and Urban Recycled Wastewater (E4)
  E5. Groundwater Recharge / Management / Banking in District Operated Groundwater Recharge Areas (as identified in Section 2B).
  E6. Transfers and Exchanges (Described in Section 2C)
  E7. Trades, Wheeling and Other Transactions of Water (Described in Section 2C)
  E8. Other Uses of Water (Described in Section 2C)
F. **Irrigation Drainage from the District** 2-15
G. **Water Accounting (Inventory)** 2-15

Table of Contents

Page

Section 3. Best Management Practices for Agricultural Contractors

A. Critical Best Management Practices for Agricultural Contractors …………. **3-1**
- A1. Measure the volume of water delivered by the Contractor to each customer with devices that are operated and maintained to a reasonable degree of accuracy, under most conditions, to +/- 6 percent.
- A2. Designate a water conservation coordinator to develop and implement the Plan and develop progress reports.
- A3. Provide or support the availability of water management services to water users.
- A4. Pricing Structure
- A5. Evaluate the need, if any, for changes in policies of the institutions to which the Contractor is subject.
- A6. Evaluate and improve efficiencies of Contractor's pumps.

B. Exemptible Best Management Practices for Agricultural Contractors.......... **3-4**
- B1. Facilitate alternative land use
- B2. Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils.
- B3. Facilitate the financing of capital improvements for on-farm irrigation systems.
- B4. Incentive pricing
- B5. Line or pipe ditches and canals
- B6. Increase flexibility in water ordering by, and delivery to, water users (within operational limits).
- B7. Construct and operate Contractor spill and tailwater recovery systems.
- B8. Optimize conjunctive use of surface and groundwater.
- B9. Automate canal structures.
- B10. Facilitate or promote water user pump testing and evaluation.

C. Provide a 3-year Budget for Expenditures and Staff Effort for BMPs ……… **3-7**

Table of Contents

Page

Section 4. Best Management Practices for Urban Contractors ……………………….. ... **4-1**

1. Water Survey Programs for Single-Family and Multi-Family Residential Customers ……………………………………………………………….…………..……**4-6**
2. Residential Plumbing Retrofit ……………………………………………….…………..…… **4-7**
3. System Water Audits, Leak Detection and Repair ……………….…………………..……. **4-9**
4. Metering with Commodity Rates, for all New Connections and Retrofit of Existing Connections ……………………………………………………………………. **4-10**
5. Large Landscape Conservation Programs and Incentives ……………………….…... **4-10**
6. High-Efficiency Washing Machine Rebate Programs ……………………………… **4-13**
7. Public Information Programs ……………………………....……………………… **4-13**
8. School Education Programs …………...…………………………………………….. **4-16**
9. Conservation Programs for Commercial, Industrial and Institutional Accounts **4-17**
10. Wholesale Agency Assistance Programs …………………………………………… **4-19**
11. Conservation Pricing ……………………………...………………………………… **4-20**
12. Conservation Coordinator …………………...……………………...………………… **4-20**
13. Water Waste Prohibition ……………………………………..……………...……. **4-21**
14. Residential Ultra Low Flow Toilet Replacement Programs ……..……………….... **4-22**

APPENDICES

Appendix A Soil Map / Eastern Santa Clara County ..……………………………….………… A-1
Appendix B District Act – Excerpt of Sections Relative to Groundwater Charge and The Rules and Regulations for the Service of Surface Water ………. B-1
Appendix C Examples of Water Production Statements ..…………………………………... C-1
Appendix D Water Inventory Tables ...…………………………………………………….. D-1
Appendix E Consumer Confidence Reports for Retailers ……………………...………… E-1
Appendix F Ordinance 90-1: The District’s Well Ordinance………………………………… F-1
Appendix G Sample Mobile Lab Printout, Pamphlet, and a Copy of the Agricultural Section of the District’s Web Page …………………………………………… G-1
Appendix H Water Audit Information for District Retailers ..………………………………….. H-1
Appendix I Water Retailer Rates ……………………………………………………….. I-1
Appendix J Water Retailer Conservation Contact List . ……………………………………. J-1
Appendix K BMP 13 – Water Waste Prohibition Summary by Retailer …………………… K-1

List of Tables and Figures

Tables

Section 1 **Page**

Table 1A (1) Santa Clara County Water Retailers ………………………………………. 1-3
Table 1A (2) Size, Population & Irrigated Acres …………………………………………. 1-4
Table 1A (3) Water Supplies Received …………………………………………………. 1-5
Table 1A (4) Annual Entitlement under each Right and/or Contract ……………………. 1-5
Table 1A (5) Cropping Patterns - Crops with 5% or More of Total Acreage …………… 1-7
Table 1A (6) Five Major Irrigation Methods ……………………………………………… 1-7
Table 1B (1&2) 2002 Urban and Agricultural Distribution System (Raw and Treated Water) ……………………………………………………………… 1-10
Table 1B (3) District Reservoir Capacities ………………………………………………… 1-12
Table 1B (4) Restrictions on the District's Water Source(s) ……………………………… 1-13
Table 1C (1) District Soil Associations …………………………………………………… 1-14
Table 1C (2) Limitations Resulting from Soil Problems within the District ……………… 1-14
Table 1D Weather Statistics from National Weather Service ………………………… 1-15
Table 1G (1) Summary of Water Measurement Methods Used by SCVWD …………… 1-20
Table 1G (2) Water Measurement Methods Used by SCVWD, Treated Water ………… 1-20
Table 1G (3) Water Measurement Methods Used by SCVWD, Raw Surface Water ….. 1-21
Table 1G (4) Water Measurement Methods Used by SCVWD, Groundwater Pumping .. 1-22
Table 1G (5) New Water Production Auditing Tool Implemented ……………………… 1-23
Table 1G (6) SCVWD Water Measurement Devices Used for Wells ……………………. 1-23
Table 1G (7) Adopted Water Charges for Fiscal Year 2002/03 ……………………………1-25
Table 1H Language Included in Treated Water Contracts in Case Water Shortage Allocations are Required ………………………………………………………… 1-27

Section 2

Table 2A SCVWD's Historic Surface Water Supply …………………………………… 2-2
Table 2B Groundwater Subbasins that Underlie the District ………………………… 2-4
Table 2D Algal Analysis for San Luis Reservoir ………………………………………. 2-12
Table 2E (1) Most Common Irrigation Method of 2002 Crops …………………………… 2-12
Table 2E (2) Retailer Related Water Use for 2002 ………………………………………. 2-13
Table 2E (3) Total Water (AF) Use by Retailers for 2002 ………………………………… 2-14
Table 2E (4) Santa Clara County Waste Water Discharge for 2002 ……………………. 2-14
Table 2E (5) Recharge Volume and Method for Each Recharge Area for 2000 – 2002 ..2-15

List of Tables and Figures

Tables

Section 3 **Page**

Table 3A (1) Agricultural Irrigation System Evaluations ………………………………….. 3-2
Table 3A (2) Summary of District's Irrigation and Fertilizer Management Program …… 3-3
Table 3C (1) Budget and Staff Time Summary for FY2003/04 …………………………… 3-7
Table 3C (2) Budget and Staff Time Summary for FY2004/05 …………………………… 3-8
Table 3C (3) Budget and Staff Time Summary for FY2005/06 …………………………… 3-9

Section 4

Table 4A Urban Water Conservation BMP Summary ………………………………… 4-2
Table 4B Wholesaler Best Management Practices …………………………………… 4-5
Table 4C District Low-Flow Showerhead Replacement BMP Target ………………. 4-8
Table 4D Pre-screening Audit Results for 1997-2000 ………………………………… 4-10
Table 4E Santa Clara Valley Water District Calculation of BMP #14 Savings Requirement ……………………………………………………………… 4-24
Table 4F Santa Clara Valley Water District Implementation Status for BMP #14 …. 4-27
Table 4G (1) Budget and Staff Time Summary for FY2003/04 …………………………… 4-28
Table 4G (2) Budget and Staff Time Summary for FY2004/05 …………………………… 4-29
Table 4G (3) Budget and Staff Time Summary for FY2005/06 …………………………… 4-30

Figures

Figure 1 Evolution of Santa Clara Valley Water District Section 1A …. 1-1
Figure 2 Water Utility Zones Section 1A …. 1-8
Figure 3 Water Conveyance, Treatment and Distribution System Section 1B …. 1-11
Figure 4 Natural Resources Section 1E …. 1-17
Figure 5 Groundwater Basins and Recharge Areas Section 2B …. 2-5

Overview

The Santa Clara Valley Water District (District) entered its first contract with the United States Bureau of Reclamation (Reclamation) to purchase water service from the San Felipe Division of the Central Valley Project (CVP) in June, 1977. Ten years later, the first water deliveries were received. Today, the District is renegotiating its CVP contract with Reclamation pursuant to Section 3404 of the Central Valley Project Improvement Act (CVPIA). Under the terms of a long-term renewal contract, the District will be required to submit a Water Conservation Plan that meets Reclamation criteria. This document was submitted for review in 2005 based on the 2002 criteria developed by Reclamation.

CVPIA Water Conservation Plan Content

The information presented in this Water Conservation Plan is based on the specific criteria developed by Reclamation. Section 1 describes the District in areas ranging from its jurisdictional formation and development; geography and natural resources; operating rules and regulations; and, water measurement, pricing, and billing methods. Section 2 focuses on water resource inventories. Section 3 pertains to Best Management Practices (BMPs) for agricultural contractors while Section 4 presents information on urban contractor BMPs. These four sections are followed by 11 appendices containing further technical information as required.

Follow Up Actions

The CVPIA Water Conservation Plan focuses on encouraging each participating contractor to maximize conjunctive use within their respective service areas. As a special district specifically formed based on the principles of conjunctive use, the District already meets nearly all criteria required.

Four follow up actions are included in this plan:

- Develop a water waste prohibition ordinance;
- Install meters on all untreated surface water accounts (13);
- Continue to work with the District’s retailers to improve standardization of data reporting; and,
- Continue to report compliance with urban water contractor Best Management Practices outlined by the California Urban Water Conservation Council.

Section 1. Description of the Santa Clara Valley Water District

A. District Demographics

A1. History

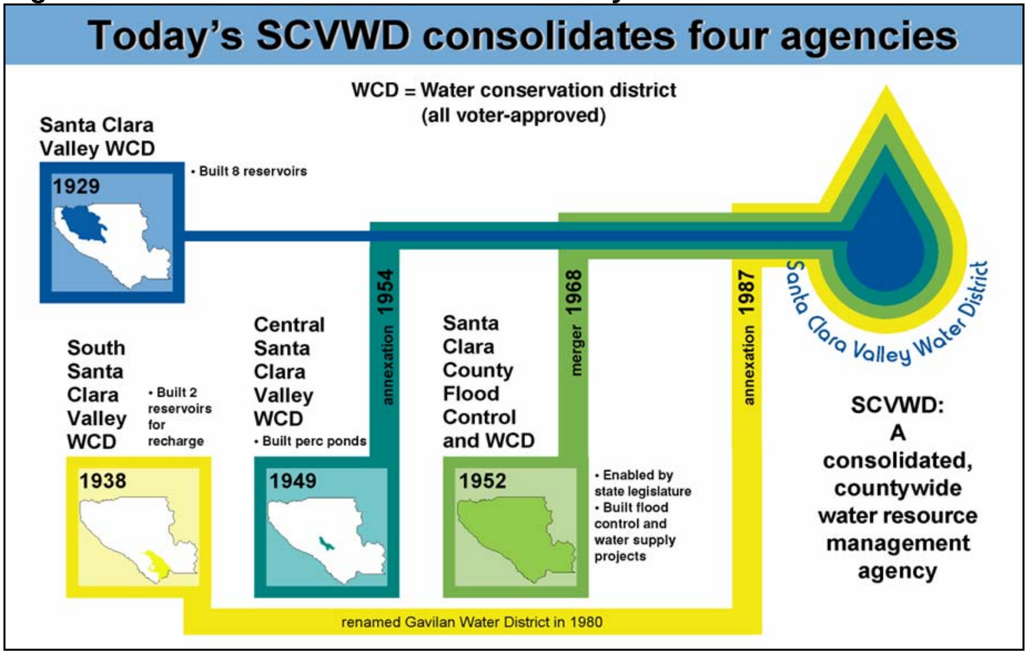
District Formation

The Santa Clara Valley Water District was established based on the principle of conjunctive ground and surface water management. It was initially founded as a Water Conservation District in 1929 to serve 350 square miles in the northern portion of Santa Clara County. The initial conservation district's founding purpose was to develop a reliable water supply, to build reservoirs to store water, and to halt land surface subsidence by recharging the underground aquifer. Within seven years of formation, six newly constructed reservoirs improved water reliability and facilitated groundwater recharge.

Urbanization in Santa Clara County escalated greatly after World War II. Accompanying this rapid growth was a shift from primarily agricultural to domestic/industrial water consumption throughout the county. In 1938, the South Santa Clara Valley Water Conservation District was formed followed by the Central Santa Clara Valley Water Conservation District in 1949. These two districts which served their respective parts of the county added four more reservoirs and percolation ponds to the inventory of water facilities located within the county. They also provided the water infrastructure for the population booms that followed.

Rapid urban growth also brought a growing demand for greater flood protection. In 1952, the Santa Clara County Flood Control and Water Conservation District was created by special act of the state legislature to provide flood control throughout the county. Over the next four decades, the water conservation and flood control districts merged to form the Santa Clara Valley Water District of today. Figure 1, entitled *Evolution of Santa Clara Valley Water District* describes the consolidations that took place to form the existing Santa Clara Valley Water District.

Figure 1: Evolution of Santa Clara Valley Water District


Today's SCVWD consolidates four agencies
WCD = Water conservation district
(all voter-approved)
Santa Clara Valley WCD
• Built 8 reservoirs
1929
South Santa Clara Valley WCD
• Built 2 reservoirs for recharge
1938
Central Santa Clara Valley WCD
• Built perc ponds
1949
annexation 1954
Santa Clara County Flood Control and WCD
1952
• Enabled by state legislature
• Built flood control and water supply projects
merger 1968
annexation 1987
Santa Clara Valley Water District
SCVWD: A consolidated, countywide water resource management agency
renamed Gavilan Water District in 1980

Board Governance

The Santa Clara Valley Water District is governed by a Board of Directors (Board) composed of seven members. Five members are elected from geographical areas which coincide with the county supervisorial districts, and two at-large members are appointed by the County Board of Supervisors. The directors serve overlapping four year terms. This structure was created pursuant to the adoption of the Santa Clara Valley Water District Act (District Act), available in full at http://www.valleywater.org/About_Us/District_Info/District_Act/_Complete_text/Distact-2002.shtm.

Board adopted governance policies provide direction and vision for the District. The governance policies also set goals and executive limitations for the Chief Executive Officer (CEO). One category of governance policies is devoted to goals known as Ends Policies. These Ends Policies direct the CEO regarding intended results, organizational products, impacts, benefits, outcomes, recipients, and relative worth (what good for which recipients at what costs). The full text of the District's governance policies can all be viewed on the District's website at http://www.valleywater.org/About_Us/Board_of_directors/Board_Policies/index.shtm. The following policy guides water supply activities.

Policy E-2.1. There is a reliable supply of healthy, clean drinking water.

2.1.1. The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.

2.1.2. The water supply is reliable to meet current demands.

2.1.3 The water supply is reliable to meet future demands in Santa Clara County, consistent with the County's and cities' General Plans and other appropriate regional and statewide projections.

2.1.4. There are a variety of water supply sources.

2.1.5. Groundwater resources are sustained and protected for water supply reliability and to minimize land subsidence.

2.1.6. The groundwater basins are aggressively protected from contamination and the threat of contamination.

2.1.7. Water recycling is expanded within Santa Clara County in partnership with the community, consistent with the District's Integrated Water Resources Plan (IWRP), reflecting its comparative cost assessments and other Board policies.

2.1.8 Water conservation is implemented to the maximum extent that is practical.

District Mission

The District's role as steward of the local watersheds has become one of the driving forces behind its mission:

> A healthy, safe and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective and environmentally sensitive manner.

Water Retailers

The District is the wholesale water provider to 10 of the 13 retail water companies in Santa Clara County. Water “retailer” is the term used throughout this report to refer to the public and private retail water companies which sell water directly to the residents and businesses located within the county. Table 1A (2) identifies the 15 cities within Santa Clara County, the water retailers servicing each city, and the source of water for each retailer.

Table 1A (1) Santa Clara County Water Retailers

City	Water Retailer	Source of Water
Santa Clara Valley Water District Water Retailers		
Campbell	San Jose Water Company	SCVWD treated water blended with some well water
Cupertino	San Jose Water Company	SCVWD treated water
	California Water Service Company	SCVWD treated water
Gilroy	Gilroy Community Services Department	Well water
Los Altos	California Water Service Company	72% SCVWD treated water with remainder from wells
Los Altos Hills	California Water Service Company	72% SCVWD treated water with remainder from wells
Los Gatos	San Jose Water Company	20% SCVWD treated water / 80% from Los Gatos Creek
Milpitas	City of Milpitas Community Services	Hetch Hetchy (60%) / SCVWD (40% small industrial area)
Monte Sereno	San Jose Water Company	20% SCVWD treated water / 80% from Los Gatos Creek
Morgan Hill	City of Morgan Hill Public Works Department	Well water
Mountain View	City of MV Public Services Department	Hetch Hetchy, SCVWD, and wells
	California Water Services Company	72% SCVWD, 28% wells
San Jose	San Jose Water Company	Well Water, Los Gatos Creek, SCVWD
	Great Oaks Water Company	Well Water
	San Jose Municipal Water Services	Hetch Hetchy, Well Water, SCVWD
Santa Clara	City of Santa Clara Water Department	Well Water, Hetch Hetchy and SCVWD
Saratoga	San Jose Water Company	Surface water from Los Gatos Creek
Sunnyvale	City of Sunnyvale Public Works Department	Hetch Hetchy, SCVWD, and wells
	California Water Service Company	72 (remainder from wells)
Retailers that Purchase Water from Other Wholesalers		
Los Altos Hills	Purissima Hills Water District	Hetch Hetchy (100%)
Palo Alto	City of Palo Alto Utilities Department	Hetch Hetchy (100%)
Palo Alto	Stanford University	Hetch Hetchy (100%)

Well Owners

There are over 3,000 small-well owners located primarily in the southern portion of the county. The District charges well owners water management fees based on the quantity of water extracted for the groundwater recharge services managed by the District.

A2. District Size

The District encompasses the same geographical boundaries as Santa Clara County totaling approximately 1,300 square miles and home to more than 1.7 million residents. Table 1A (1) compares data on District size from 1989 to 2002. The District’s service territory includes the

Santa Clara Valley from San Francisco Bay south to the Pajaro River and portions of the Diablo Range and Santa Cruz Mountains. Most of the development and water use occurs in the 350 square miles of valley floor.

Table 1A (2) Size, Population & Irrigated Acres

	1989*	2002
Size (sq. miles)	1,300	1,300
Population Served	1.45 million	1.7 million
Irrigated Acres	15,999	17,741

Notes: Although the first USBR contract was executed in 1977, the first CVP deliveries were received in June of 1987. 1989 data is provided. 1989 and 2002 data are from the District Water Resources Information System (WRIS), which records Santa Clara County agricultural production utilizing groundwater and surface water supplies managed by SCVWD. Acreage listed may include double cropping. Agriculture outside of the water utility zones is included in record from the County Crop Report.

A3. Water Supplies

Water supply sources within Santa Clara County include water imported via state and federal water projects, water purchased by retailers directly from the San Francisco Public Utilities Commission, local surface water, groundwater, and reclaimed water. The District's own supply sources are limited to imported federal and state water, transferred water (purchased directly from other federal and state water contractors), and surface water. These sources either are used to recharge groundwater supplies or treated for sale to retail water companies. A very limited amount of raw water also is sold to local farmers.

Groundwater is considered a water retailer or private well owner source of supply. Similarly, reclaimed water is considered a supply source of the four agencies within the county which own and operate water pollution control plants. The District does not own or operate distribution wells or water recycling facilities. Further, with respect to water accounting, including these sources would result in a supply double count. For example, imported water used to recharge groundwater supplies would be counted once when it percolates to the aquifers and a second time when it is pumped out. Groundwater and recycled water sources, therefore, are not counted as District water sources.

Table 1A (3): *Water Supplies Received* presents District water sources in acre-feet for 1989 and 2002.

Table 1A (3) Water Supplies Received

Water Source	1989 AF	2002 AF
USBR M&I Water	98,854	97,500
USBR Irrigation Water	19,803	23,170
State Project Water	90,000	58,880
Local Surface Water	25,772	72,750
Upslope Drain Water	0	0
Transfer Water	17,085	410
Other	0	0
TOTAL	**251,514**	**252,740**

A4. Water Contracts

Imported water is the District's primary water source. The District maintains long-term contracts with the federal government and the state of California to ensure reliable supply. Both Central Valley Project (CVP) and State Water Project (SWP) supplies are imported from the San Francisco Bay/Sacramento-San Joaquin Delta.

The District entered its first contract with the United States Bureau of Reclamation in 1977. The first deliveries of federal water from the San Felipe Division of the Central Valley Project were received in June of 1987. The maximum contract quantity is 152,500 acre-feet per year. The District's State Water Project contract is for 100,000 acre-feet per year delivered through the South Bay Aqueduct via the Harvey O. Banks Pumping Plant in the southern Delta. Currently, the SWP has developed only about half of the firm yield required to meet the current and future quantity of water that the project has contracted to deliver. The state Department of Water Resources (DWR) is investigating several projects to help meet its commitments in the future.

The District participates in various programs, including CALFED, aimed at identifying operational measures, programs and facilities that would improve federal and state water supplies, quality, and reliability as well as to restore and enhance environmental conditions.

Table 1A (4) below summarizes key CVP and SWP contract provisions.

Table 1A (4) Annual Entitlement under Each Right and/or Contract

Source	M&I AFY	Ag AFY	Contract No.	Contract Restrictions
CVP	130,000	22,500	7-07-20-W0023	Critical Dry Period supply is expected to be 110,000 AF; Ag water may be converted to M&I.
SWP	100,000	0	N/A	Critical Dry Period supply is expected to be 47,000 AF.

In addition to District sources, several Santa Clara County water retailers have contracts with the San Francisco Public Utilities Commission for water from the Hetch-Hetchy project. Hetch-Hetchy imported deliveries originate in the Tuolumne River watershed high in the Sierra Nevada and are transported directly by closed conduit to the Bay Area. The District does not control or administer Hetch-Hetchy deliveries to the county; however, it is expected that many of the SFPUC retailers within Santa Clara County would pump additional groundwater if there were a shortfall in SFPUC deliveries.

A5. Anticipated Land Use Changes (i.e., Agricultural to Municipal, etc.)

Santa Clara County is home to a very dynamic economy and approximately 1.7 million people (U.S. Census Bureau, 2002 Census). Urbanization has replaced the orchards of the north county over the past several decades while agriculture remains an important part of the south county area.

Total county population in 2000 was 1,682,585 and the Association of Bay Area Governments (ABAG) projects population to grow to 2,267,100 by the year 2030 (nearly 35%). San José, the largest city in the county, recently ranked as the tenth largest city in the nation with an estimated population of 904,522 residents in 2004. ABAG Projections 2005 include the addition of almost 200,000 new households in the county between 2000 and 2030. The number of persons per household is expected to continue to be higher than the historical average, and an increasing number of those employed here are not expected to be residents of the county.

Land use in Santa Clara County is anticipated to remain fairly stable in the near-term. Most new construction is anticipated to be infill within existing urban centers with continued moderate urbanization in the south county.

Municipal and industrial (M&I) water use includes residential, commercial, industrial, and institutional water, and its use has grown as a result of the urbanization described above. This trend is expected to continue in general alignment with population growth projections. The significant decline in agricultural land use halted approximately 15 years ago. Continued stability in agricultural land use is expected. Environmental water demands, to meet downstream fishery needs for example, have been minimal in the past but may become more significant in the future.

A6. Cropping Patterns

The amount of land in agricultural production has remained fairly constant for the last 15 years. Based on District records shown below in Table 1A (5), the number of acres actually increased slightly between 1989 and 2002 from 18,631 acres to 19,901 acres. The acreage listed in Table 1A (5) is located inside the water utility zones and generally covers the valley floor. (Figure 2 is a map of water utility zones.) Total acreage is expected to remain stable over the next 20 years, but the mix of crops may change to reflect market forces. For instance, more vineyards are expected to be planted in the county's hills.

Table 1A (5) Cropping Patterns - Crops with 5% or More of Total Acreage

1989		2002			
District Data		**District Data**		**County Data**	
Crop Type	**Acres**	**Crop Type**	**Acres**	**Crop Type**	**Acres**
Beans (Bush)	1,140	Mixed Row	1,158	Ornamental Plants	536
Cherries	963	Cherries	1,016	Cherries	853
Corn (Sweet)	833	Corn (Sweet)	900	Corn (sweet)	1,285
Grapes (Vineyards)	1,101	Grapes (Vineyards)	1,000	Grapes (Vineyards)	1,839
Walnuts	875			Other Field Crops	5,572
Peppers	1,382	Peppers	2,420	Peppers	2,627
Tomatoes, Bush	1,996	Tomatoes, Bush	958	Lettuce	2,552
Other Field Crops	1,954	Lettuce	2,024		
Prunes	861	Ornamental Plants	928		
Misc. (<5%)	7,526	Misc. (<5%)	7407	Misc. (<5%)	4,637
Total	**18,631**	**Total**	**17,811**	**Total**	**19,901**

Note: 1989 and 2002 data are from the District Water Resources Information System (WRIS), which records Santa Clara County agricultural production utilizing groundwater and surface water supplies inside of the Water Utility Zones managed by SCVWD. Acreage listed may be double cropped. Agriculture outside of the water utility zones is included in record from the County Crop Report.

A7. Major Irrigation Methods

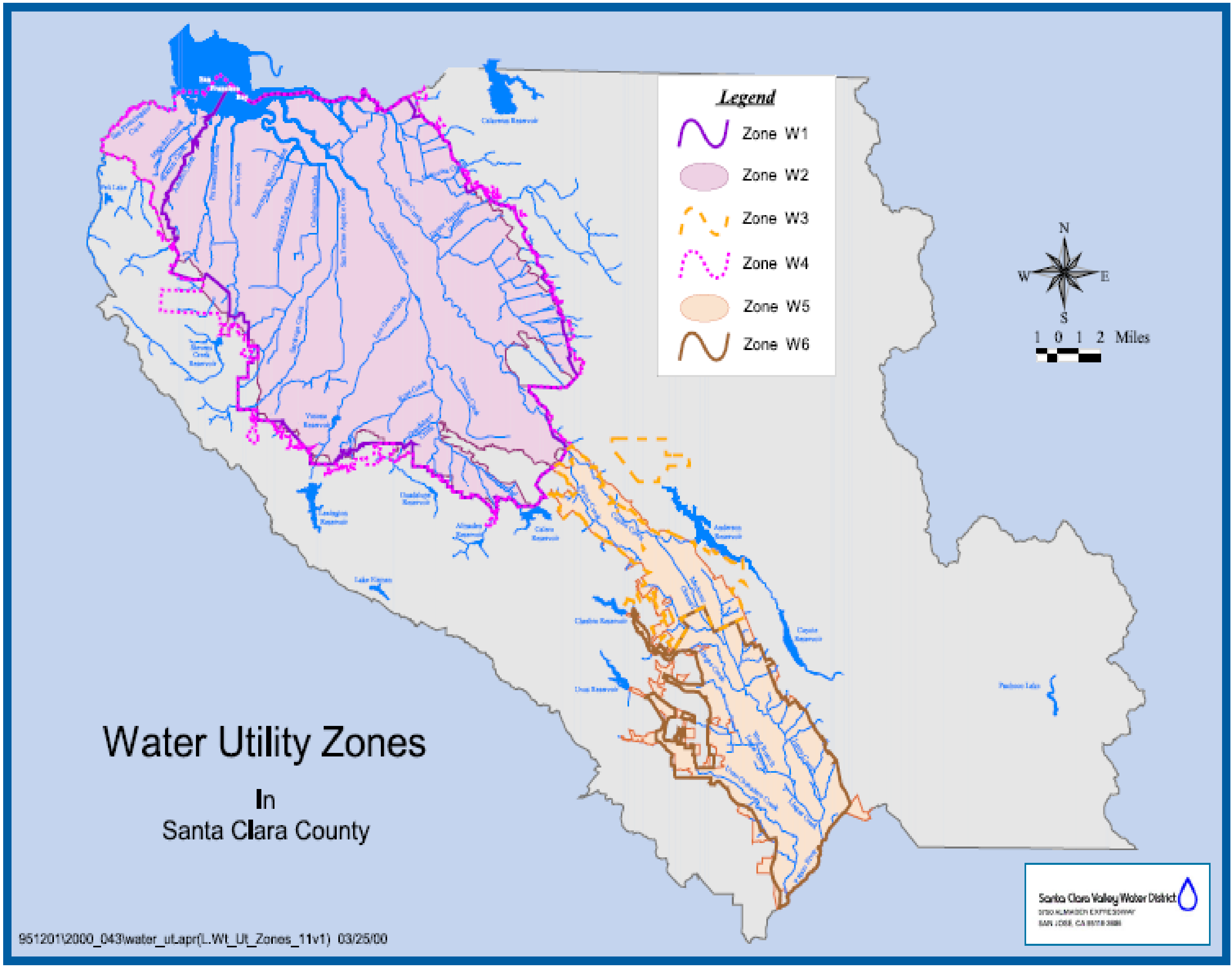
The major irrigation methods used in Santa Clara County are identified in Table 1A (6). As illustrated, trickle and drip methods are nearly as common as sprinkler systems.

Table 1A (6) The Five Major Irrigation Methods*

2002	
Irrigation Method	**Acres**
Trickle/Drip	7,434
Level Basin	873
Sprinkler	8,193
Contour	120
All Other	
Total	**16,620**

* 2002 data is from the District Water Resources Information System (WRIS), which records Santa Clara County agricultural production utilizing groundwater and surface water supplies managed by SCVWD. Acreage listed may be double cropped.

Figure 2 Water Utility Zones



B. Location and Facilities

B1. & B2. Agricultural and Urban Water Conveyances

The District's conveyance systems serve both agricultural and urban communities through groundwater recharge and water treatment. Figure 3 illustrates the location of the District's water conveyance, treatment, and distribution systems discussed below.

Conveyance systems generally refer to raw water transportation infrastructure used to import water to the county and transport water from local reservoirs to treatment plants or recharge facilities. Distribution systems generally refer to the pipelines used to transport water from the District's water treatment plants to the retail water companies that sell water directly to the public.

State and federal water projects provide the District with major sources of supply. The South Bay Aqueduct conveys water from the State Water Project (SWP), and the Santa Clara Conduit and Pacheco Conduit convey water from the federal San Felipe Division of the Central Valley Project (CVP). The District operates and maintains these federal facilities under agreement with the U.S. Bureau of Reclamation. Raw water conveyance also includes several minor canals including the Almaden, Coyote, Kirk, Chesbro/Uvas, and Page canals.

The District manages 10 local reservoirs with a total storage capacity of 169,000 acre-feet. Local pipelines transport raw water to treatment and recharge facilities. These conveyance systems include the Central Pipeline, the Rinconada Force Main, the Almaden Valley Pipeline, the Calero Pipeline, and the Cross Valley Pipeline. Another facility, the Stevens Creek Pipeline, taps off the Rinconada Force Main and conveys raw water to recharge facilities on the county's west side.

Additionally, construction of an Intertie that joins District facilities to the San Francisco Public Utilities Commission's Hetch-Hetchy system was completed in 2002. The Intertie enables limited treated water exchanges between both agencies enhancing operational alternatives during routine maintenance and augmenting shared resources during emergencies. A number of water retailers in Santa Clara County also purchase water directly from SFPUC's Hetch-Hetchy system.

Three pump stations are part of the District's conveyance system. The Pacheco and Coyote pumping plants belong to the CVP and are owned by the federal government. The District operates and maintains these two facilities per agreement with Reclamation. Their combined capacity is 36,000 horsepower. The Vasona Pumping Plant is owned by the District and supplements urban capacity during dry months. Its capacity is 1,200 horsepower.

Water treatment and distribution systems include three treatment plants with total rated capacities of 217 million gallons per day, over 30 recharge facilities capable of annually percolating 137,000 acre-feet, and approximately 140 miles of distribution system pipeline. Treated water pipelines that distribute water from the treatment plants to retail water companies include the following:

Rinconada Water Treatment Plant

- West Pipeline
- Campbell Distributary
- Santa Clara Distributary
- Mountain View Distributary
- Sunnyvale Distributary

Santa Teresa Water Treatment Plant

- Snell Pipeline

Penitencia Water Treatment Plant

- East Pipeline
- Milpitas Pipeline
- Parallel East Pipeline

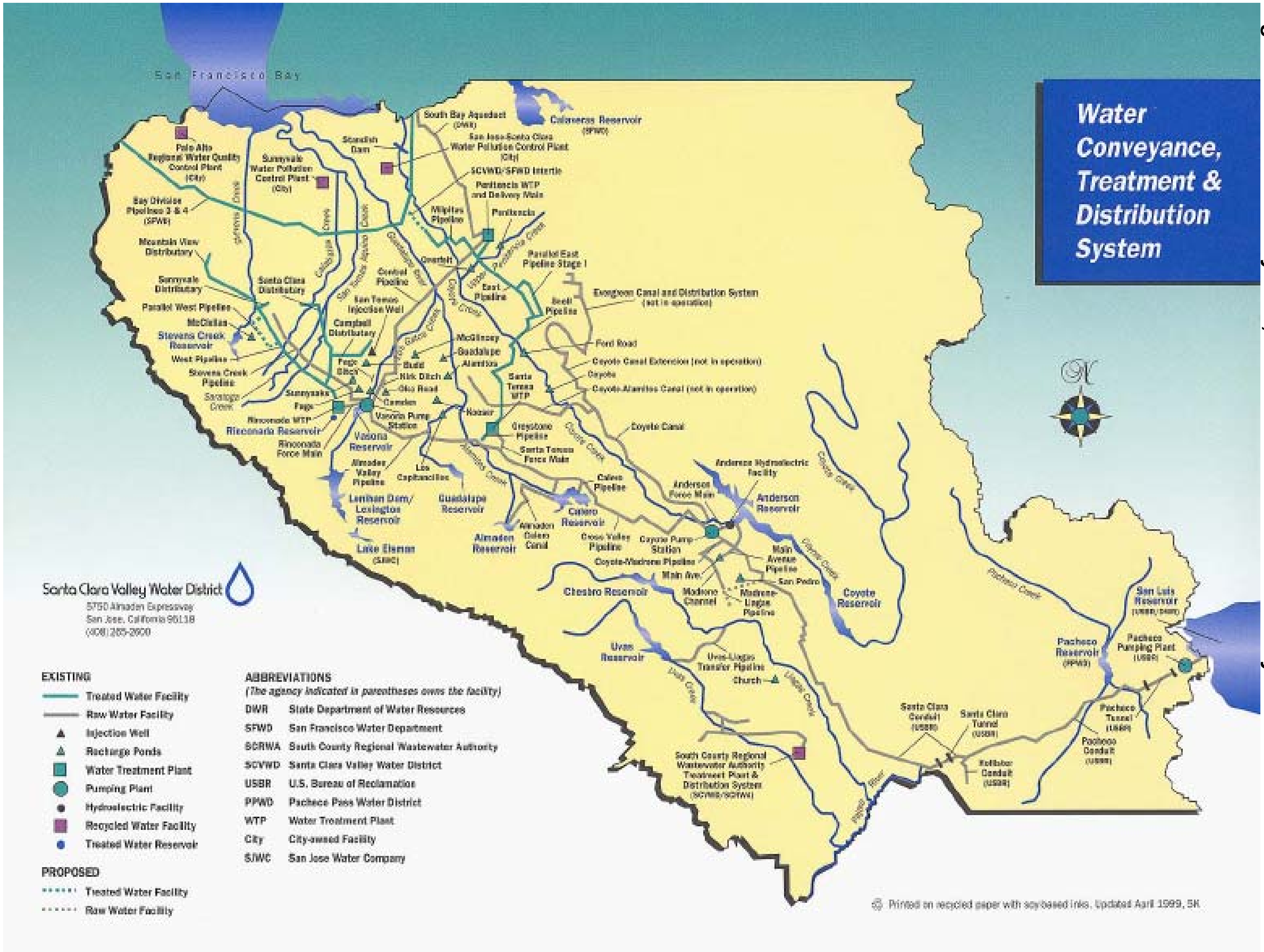
Table 1B (1&2) summarizes the miles of raw and treated water distribution systems.

Table 1B (1&2) 2002 Urban and Agricultural Distribution System (Raw and Treated Water)

Conveyance Method	**Miles**
AC pipe	8.1
Steel pipe	41.9
Pre-stressed concrete and steel pipe	78.4
Cast Iron Pipe	0.0
Lined Canal between reservoirs	4.4
Tunnel	5.9
Total:	**138.7**

The District does not own or operate any wastewater treatment facilities; however, four exist in Santa Clara County. They are the Palo Alto Regional Water Quality Control Plant, San Jose/Santa Clara Water Pollution Control Plant, and Sunnyvale Water Pollution Control Plant which together serve the north county and discharge to South San Francisco Bay; and, the South County Regional Wastewater Authority which discharges to percolation ponds.

Figure 3: Water Conveyance, Treatment and Distribution System



B3. District Storage Facilities, Including Capacity & Location

The District manages 10 local reservoirs which capture local runoff and are used to store imported water. The total storage capacity of these reservoirs is 169,415 acre-feet.
Table 1B (3) below lists individual reservoir capacities and Figure 3 identifies locations. Water is stored at these sites for later conveyance to groundwater recharge facilities or to treatment plants based on demand.

Table 1B (3) District Reservoir Capacities

Almaden	1,586
Anderson	90,373
Calero	9,934
Chesbro	7,945
Coyote	23,244
Guadalupe	3,415
Lexington	19,044
Stevens Creek	3,138
Uvas	9,835
Vasona	400
Total	**168,914**

B4. Spill Recovery System

Not applicable.

B5. Delivery System Operation

The District delivers treated water on a scheduled basis to retail water companies. The scheduling process, which is based on the water retailers' anticipated demand, is outlined in Article B of District treated water contracts. It is summarized as follows:

- Every three years written contracts for desired amounts of treated water for the next three fiscal years are submitted by the retailers and approved by the District. Retailers agree that their actual water delivery will not be less than 95% of the amount for the fiscal year containing the maximum amount in the then-current three year contract except under special circumstances.

- A planning schedule is submitted by the retailers annually. The schedule is the anticipated monthly take for the next five years. Anticipated monthly and yearly peaks and allotments are calculated and communicated at that time. Retailers have agreed that,should water production warrant, those allotments will be adjusted accordingly.

- The anticipated monthly amounts are also used for monthly billing purposes. Billings are adjusted to actuals at year-end.

Agricultural water deliveries are on demand, whether water users pump water as necessary or take water from a raw water pipeline. Restrictions on surface water agricultural deliveries are subject to the needs of drinking water treatment plants during times of shortage.

B6. Restrictions on Water Sources

Table 1B (4) describes the types of restrictions on water sources, causes for the restrictions, and corresponding effect on District operations.

Table 1B (4) Restrictions on the District's Water Source(s).

Restriction	Cause of Restriction	Effect on District Operations
Ground surface subsidence	Over-pumping of groundwater.	Encourage retailers to limit their GW pumping and manage recharge operations.
Contract limitations	Drought and environmental conditions (water quality, fish migration and habitat).	Rely on stored water, encourage cities to adopt mandatory water conservation measures/rationing, purchase additional supplies, and develop IWRP.
Low point in San Luis Reservoir	Drought and environmental conditions (water quality, fish migration and habitat).	Rely on locally stored water, if available, possible emergency water conservation measures or rationing, and reoperation as much as possible to minimize impacts.

B7. Proposed Changes or Additions to Facilities and Operations for the Next Five Years

District operations are continually adapted to meet changing regulatory requirements, water supply and water quality conditions, flood protection needs, fishery and environmental concerns, cost control, and stakeholder interests. Changes or additions to facilities or operations proposed for the next five years include:

- Upgrade of the Rinconada Water Treatment Plant to ozone treatment to reduce the production of disinfection by-products and to expand capacity from 80 mgd to 100 mgd. Rinconada is the last of the District's three treatment plants to be upgraded.
- Development of various Integrated Water Resources Plan components, such as expansion of groundwater recharge.
- Implementation of the Fisheries and Aquatic Habitat Collaborative (FAHCE) Habitat Conservation Plan.
- Implementation of interim measures and a long-term project to resolve the San Luis Reservoir low-point problem (San Luis Reservoir Low-Point Improvement Project).

C. Topography and Soils

C1. Topography of the District

The topography of the Santa Clara Valley consists of three main physiographic features: the Santa Clara Valley, the Santa Cruz Mountains, and the Diablo Range. Vegetation in non-urbanized areas of the county is diverse, ranging from redwood forests along the Santa Cruz Mountains to grasslands along the eastern foothills and Diablo Range.

C2. Soil Associations

The United States Department of Agriculture, Soil Conservation Service (now Natural Resource Conservation Service), has classified 11 major soil associations within the county in their 1974 report *Soil Survey of Eastern Santa Clara Area, California*. Appendix A includes the *General Soil Map for Eastern Santa Clara County*. This map provides the location of the major soil associations in the portion of the county currently dominated by agriculture. The approximate acreage for each association is listed in Table 1C (1).

Table 1C (1) District Soil Associations

Soil Association*	Est. Acres	Effect on Water Operations
Yolo	25,964	None
Arbuckle-Pleasanton	25,964	None
Cropley-Rincon	5,193	None
Clear Lake-Pacheco-Sunnyvale	10,386	None
Hillgate-San Ysidro	15,578	None
Azule-Altamont	10,386	None
Los Osos-San Benito	5,193	None
Los Gatos-Gaviota-Vallecitos	192,134	None
Gaviota	160,977	None
Felton-Maymen	51,928	None
Montara-Inks-Henneke	15,578	None

*From US. Dept. of Agriculture Soil Conservation Service (now NRCS) report, *Soil Survey of Eastern Santa Clara Area, California*, issued September 1974. Survey area = 519,280 acres.

C3. Limitations Resulting from Soil Problems

Agricultural water management in the county is not limited by either topography or soils. Southern portions of the county near the Pajaro River, however, may be subject to naturally high water tables (Table 1C (2). Santa Clara County Planning Office records indicate that over 47,000 acres in the county are classified as “Farmland of Local Importance,” “Prime Farmland,” “Farmland of Statewide Importance,” or “Unique Farmland.” Limits on agriculture within the District’s service area include urban encroachment, land costs, and operational costs.

Table 1C (2) Limitations Resulting from Soil Problems within the District.

Soil Problem	Est. Acres	Effect on Water Operations and Management
Portions of south Santa Clara County in the Gilroy area, near the Pajaro River, may at times be subject to naturally high water table.	N/A	The District does not operate an artificial groundwater recharge program in this area.

D. Climate

D1. General Climate of the District

The geography of the county can best be described as varied, ranging from the low lying Santa Clara Valley flanked by the Santa Cruz Mountains to the west and by the Diablo Range to the east. Elevations range from sea level along the southern shores of San Francisco Bay to 4,372 feet atop Copernicus Peak in the Diablo Range.

Most of the rainfall in the county is due to mid-latitude, cyclonic, and frontal systems which approach the California coast during the winter months. As such, the overall climate can be classified as Mediterranean with warm dry summers and cool rainy winters.

The average annual rainfall in downtown San Jose is approximately 14 inches and ranges from a low of 4.8 inches to a high of over 30 inches. During very wet years like 1983, 30.25 inches of rain fell and the excess water created flooding throughout the county. But in very dry years such as 1976, when only 5.77 inches of rain fell, the water supply generated was extremely low and produced drought conditions.

Table 1D below provides historical averages for precipitation, temperature, minimum and maximum temperature, and average wind velocity and direction.

Table 1D Weather Statistics from National Weather Service
Source: National Weather Service, SAN JOSE, CALIFORNIA
(Station # 047821)1948-1999

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg Precip.	3.05	2.49	2.32	1.07	0.40	0.09	0.04	0.09	0.21	0.71	1.76	2.32	14.53
Mean Avg Temp.	49.69	53.12	55.39	58.72	62.64	66.87	69.42	69.28	68.29	63.18	55.53	49.73	60.18
Avg Max Temp.	57.90	62.00	65.20	69.90	74.20	79.10	82.10	81.80	80.60	74.60	65.10	58.00	70.90
Avg Min Temp.	41.30	44.10	45.60	47.50	51.10	54.60	56.70	56.80	56.00	51.70	45.90	41.50	49.40

Percent of possible observations for period of record:

Max. Temp.:	98.7%
Min. Temp.:	98.7%
Precipitation:	98.9%
Snowfall:	98.9%
Snow Depth:	98.9%

Average wind velocity:	4 mph
Predominant wind direction:	Southeast
Average annual frost-free days:	N/A

D2. Impact of any Microclimates on Water Management within the District.

The topographical variations mentioned above also create variations in weather or microclimates. In addition to the normal amount of precipitation that is generated by these midlatitude systems, the orographic lift, due to the Santa Cruz and Diablo Ranges, significantly enhances rainfall amounts in the north county. Mean annual precipitation ranges from 53 inches in the Santa Cruz Mountains and 31 inches in the Diablo Range to 14 inches in San Jose. In general, the predominantly agricultural south county has higher temperatures and receives less rainfall than the urban north county due to the orographic lift.

The microclimates' effect on water management is reflected in the orientation of District reservoirs and in potential reductions in water needed for landscaping and irrigation in the mountains.

E. Natural and Cultural Resources

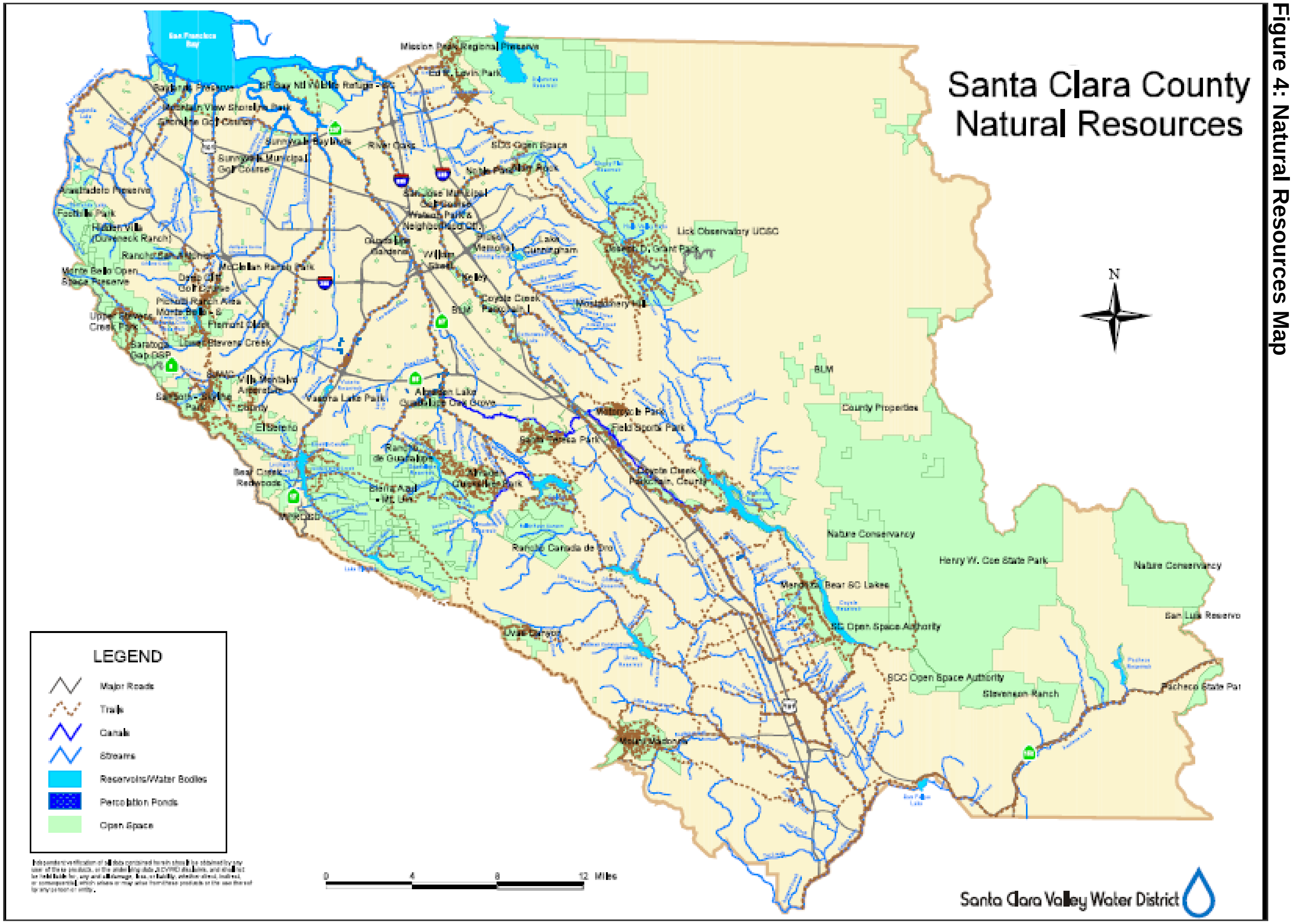
E1. Natural Resources

Santa Clara County has an exceptionally diverse inventory of environmental resources including grasslands, oak woodlands, redwood forests, salt marshes, seasonal wetlands, and extensive riparian habitat. The county is located at the southern end of San Francisco Bay and is located within the Pacific Flyway.

Water related environmental and recreational resources include approximately 640 miles of rivers, streams, creeks, 10 reservoirs, and several recharge facilities which are operated as joint-use recreational facilities. In addition, a number of the District's reservoirs are also operated as joint-use recreational facilities under agreement with the County. An extensive network of walking and biking trails criss-cross the county. City parks such as the Palo Alto Baylands, Shoreline Park and the Sunnyvale Baylands Park provide access from Santa Clara Valley to the south end of San Francisco Bay. These are illustrated on Figure 4, *Natural Resources Map*.

Endangered or threatened species located within the county include the California Clapper Rail, Salt Marsh Harvest Mouse, California Red-Legged Frog, Western Pond Turtle, the Tiger Salamander, and Steelhead Trout.

Figure 4: Natural Resources Map



E2. Management of Natural Resources

The Board of Directors has adopted an "Ends Policy" related to management of natural resources.

Policy E-3	**There is an enhanced quality of life in Santa Clara County through the protection and enhancement of watersheds, streams, and the natural resources therein.**
3.1	Mitigations are implemented to protect watersheds, streams, and the natural resources therein.
3.2	Environmental enhancements are implemented to improve watersheds, streams, and the natural resources therein.
3.3	There are additional trails, parks and open space along creeks and in the watersheds when reasonable and appropriate.

The District is working in coordination with the City of San Jose, County of Santa Clara, Valley Transportation Authority, U.S. Fish and Wildlife Service and California Department of Fish and Game on the south county phase of a county-wide Habitat Conservation Plan (HCP). The settlement reached by the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE Project) to protect steelhead and salmon required the development of an HCP for issues related to the settlement. Both of these efforts will be integrated to maximize the protection to endangered species which live in Santa Clara County.

These efforts could result in additional water needs to appropriately manage District natural and cultural resources in the future.

E3. Recreational and Cultural Resources

The county of Santa Clara, the 15 municipalities within the county, and various private enterprises offer numerous recreational and cultural resources within the District's boundaries. Information on many of these is readily available on the County and cities' websites.

F. Operating Rules and Regulations

F1. District's Rules and Regulations

District rules and regulations are based on the authority granted in the District Act and ordinances and resolutions adopted by the Board of Directors.

Groundwater rules and regulations are governed by Section 26 of the District Act and Ordinance 70-1, *Enacting Rules and Regulations Governing the Recording of Ground Water Production within a Zone of Santa Clara Valley Water District in which a Ground Water Extraction is Levied.* See Appendix B for full text of each. These rules are distributed to all private well owners.

Surface water rules and regulations are governed by resolution 70-28 as amended. See Appendix B for full text. The District's highest surface water priority is to ensure sufficient supplies to the District's treatment plants. Raw water is used for groundwater recharge and agriculture.

F2. District's Agricultural Water Allocation Policy

Approximately 97 percent of water used by farmers is independently pumped from groundwater. The groundwater basins that underlie the District are not adjudicated, thus individual pumping is not limited. However, the amount of water extraction is influenced by the rate structure in which well users pay a flat rate for each additional acre-foot of water pumped. Agricultural surface water deliveries are on demand subject only to the needs of the water treatment plants during times of shortage.

F3. Official and Actual Lead Times Necessary for Water Orders and Shut-Off

Not applicable. Agricultural surface water is provided on demand, subject to the needs of the treatment plants in times of shortage.

F4. District's Policies Regarding Surface and Subsurface Drainage from Farms

Not applicable. There is no surface or subsurface drainage from farms.

F5. District's Policies on Water Transfers by the District and Its Customers

The District has utilized water management exchanges with San Benito County Water District, and engaged in short-term transfers on a routine basis. Water transfers have been identified in the District’s Integrated Water Resources Plan as a way to increase water supply reliability.

G. Water Measurement, Pricing and Billing

The District is a water wholesaler charged with treating water primarily sold to retail water companies and for recharging the groundwater aquifers to mitigate surface land subsidence. To most meaningfully describe the District’s Water Measurement, Pricing and Billing practices, the information presented for Subsection G is by supply type (i.e., treated, raw surface, and groundwater). Distinctions between agricultural and urban users are highlighted for each supply type as appropriate.

G1. Water Measurement

The District operates an aggressive water measurement program for treated water deliveries, raw water deliveries and groundwater wells utilizing methodologies that are appropriate for each delivery type. All District water deliveries are measured and most are metered. The current water measurement program directly measures 100 percent of all treated water deliveries to District retailers using meters and 97 percent of all groundwater used. Table 1G (1) summarizes water measurement methods by type of water supply. This table is followed by discussion and additional tables for each type of water supply.

Table 1G (1): Summary of Water Measurement Methods Used by SCVWD

Water Supply	No. of Accounts	Percent	Water Quantity	Percent
Treated Water				
Metered	26	100%	143,800	100%
Un-metered	-	0%	-	0%
Total	**26**	**1%**	**143,800**	**47%**
Raw Surface Water				
Metered	26	59%	1,512	94%
Un-metered*	18	41%	101	6%
Total	**44**	**1%**	**1,613**	**1%**
**The District has committed to metering all Raw Surface Water Accounts by 2007.*				
Groundwater				
Metered	561	14%	149,382	95%
Un-metered	3,325	86%	8,602	5%
Total	**3,886**	**98%**	**157,984**	**52%**
Total				
Metered	613	15%	294,694	97%
Un-metered	3,343	85%	8,703	3%
Total	**3,956**	**100%**	**303,397**	**100%**

Treated Water Measurement
All treated water accounts are measured. The type of measurement, number of accounts, and measurement frequency are identified in Table 1G (2).

Table 1G (2): Water Measurement Methods Used by SCVWD - Treated Water

Water Supply	Type of Measurement Method	No. of Accounts	Reading Frequency
Retailers- 8 retailers with 26 metered turnouts	10” turbine	1	Every 7 days
	12” ultrasonic	6	Every 7 days
	16” ultrasonic	4	Every 7 days
	18” ultrasonic	3	Every 7 days
	20” ultrasonic	6	Every 7 days
	24” ultrasonic	3	Every 7 days
	30” ultrasonic	1	Every 7 days
	32” ultrasonic	1	Every 7 days
	36” ultrasonic	1	Every 7 days
Total		**26**	

Raw Surface Water Measurement

As shown in Table 1G (3), all raw surface water for agricultural and non-agricultural accounts over 2 acre-feet per year are metered. These represent 26 of the 44 raw surface water accounts and 94 percent of all raw surface water volume. The volume of water used by the 18 un-metered surface water accounts is evaluated using the Crop Factor Calculation or the Table of Average Uses.

The District intends to meter all raw surface water accounts by 2007. The metering plan includes conducting investigations during FY2005/06 to determine which kind of meter is appropriate at the site and how much it will cost to install the meter, communicate with the account owner, and develop a schedule for installation. In FY2006/07, the meters will be installed. The District will notify Reclamation when the project has been completed.

Table 1G (3): Water Measurement Methods Used by SCVWD - Raw Surface Water

Water Supply	Type of Measurement Method	No. of Accounts	Reading Frequency	Water Quantity
Agricultural, over 2 AF/YR	Meter	18	Monthly	1,006
Agricultural, less than 2 AF/YR *	Crop Factor Calculation	5	Every 6 months	21
Non-agricultural, over 2 AF/YR	Meter	8	Monthly	506
Non-agricultural, less than 2 AF/YR *	Table of Average Uses	13	Every 6 months	80
Total		**44**		**1,613**

** The District intends to meter all raw surface water accounts by 2007.*

Groundwater Measurement

Groundwater usage represents approximately 52 percent of the District's total water supply and measuring by volume, 97 percent of groundwater use is metered as identified previously in Table 1G (1).

Table 1G (4) below provides data on groundwater pumping methods, accounts, reading frequency, and quantity. For un-metered groundwater accounts, a calculation of water usage is made and the well owner is billed. The un-metered residential well owners complete a worksheet to compute their water usage based on water usage factors supplied by the District. This process and recent improvements are described in Table 1G (5) and a copy of the worksheet is found in Appendix C. Metering small users is not considered to be cost effective per District Board of Directors resolution No. 91-53 (Setting Requirements for Metering of Well Production in Groundwater Production Zones of Santa Clara Valley Water District). Well owners may request a meter and the District will conduct an audit to determine whether it would be cost effective. If it is found to be cost effective, the District installs the meter.

Table 1G (4): Water Measurement Methods Used by SCVWD - Groundwater Pumping

Water Supply	Type of Measurement Method	No. of Accounts	Reading Frequency	Water Quantity***
Agricultural, greater than 100 AF/YR	Meter	64	Every 30 days	15,945
Agricultural, less than 100 AF/YR	Meter	97	Every 6 months	5,433
Agriculture under minimum	Meter	47	Every 6 months	312
Agriculture, over 100 AF/YR*****	Crop Factor Calculation from worksheet	5	One record period, until meters repaired	650
Agriculture, over minimum******	Crop Factor Calculation from worksheet	107	Every 6 months	3,979
Agricultural, less than 20 AF/Yr in W-5 or less than 4 AF/Yr in W-2	Crop Factor Calculation from worksheet	382	Every 6 months	2,161
Non-Agricultural, over 100 AF/Yr	Meter	52 at 909 sites	Every 30 days	123,108
Non-Agricultural, over 1 AF/YR in W-2 or 2 AF/YR in W-5	Meter	218	Every 6 months	4,534
Non-Agricultural, under minimum	Meter	83	Every 6 months	50
Non-agricultural, less than 1 AF/YR in W-2 or 2 AF/YR in W-5	Table of Average uses	2,831	Every 12 months	1,812
Total		**3,886**		**158,671**

*Meters mal-functioned and required repairs, so the amount of water extracted was calculated based on Crop Factor Calculation. These meters have been repaired.

******Some agricultural wells have pipes that are too large to make metering cost-effective at the District minimum. Each of these wells has been evaluated to determine what amount of pumpage would make metering cost effective. They are checked semi-annually to see if pumpage has reached that level.

****The figures in this column represent pumpage for fiscal year 2002, not calendar year as is used in the rest of the report. Because of accounting practices, these figures could only be reported on a fiscal year basis.

Table 1G (5): New Water Production Auditing Tool Implemented

For more than 5,000 domestic and agricultural groundwater producing facilities, groundwater production is un-metered and is determined by means of worksheets included with annual and semi-annual water production statements (statements).

Using the worksheets, customers self-report the number of people using the well, the amount of land irrigated, the type of crop, the number of livestock, etc. Customers summarize the worksheet information on the statements and calculate their groundwater pumping fee.

When statements are received by Wells and Water Production Unit staff, each one is audited for accuracy. In the past, staff had to complete the audit based on the size and use of the parcel and historical production. When questionable production was reported, staff had to go to the well site to determine the correct production.

Last year, high resolution ortho-photographs were added to the District's Geographic Information System (GIS). This gave staff a new method to confirm what was reported on each statement. Staff now search GIS for a particular property or well, open the ortho-photograph showing an aerial view of the property and use GIS tools to calculate irrigated land areas. Using this new tool, staff are finding numerous errors in reported production. The detected errors result in invoices for under-reported production or refunds for over-reported production. Staff anticipate that as further work is done with customers to correct these reporting errors, the future number of errors will be reduced.

Table 1G (6) below provides data as required for this CVPIA Water Conservation Plan on the specific measurement devices employed.

Table 1G (6): SCVWD Water Measurement Devices Used for Wells

Type Maintenance	Accuracy (%)	Reading (days)	Calibration (months)	Inspection (months)	No. of Meters
Propeller Meters					
Sparling LP Mainline					0
Water Specialties-Mainline LPS	+/-2%	30/180	7 years of production	2 years of production	416
McCrometer – Mainline LPS	+/-2%	30/180	5 years of production	1 year of production	23
Master Meter Multijet	+/-2%	30/180	7 to 10 years of production	1 year of production	34
Turbine Meters					
SensusTurbine	+/-2%	30/180	7 years of production	1 year of production	135
Electronic Meters					
Sparling Tigermag	+/-2%	30/180	5 years of production	1 year of production	3
Eastec - Vortex Shutter					0
Nusonic - Ultra Sonic					0
Mapco - Ultra Sonic					0

G2. Water Pricing and Billing

Water Rate Schedules and Billing

The District's Water Utility is operated on an Enterprise Fund basis. The majority of revenue comes from sales of treated water to retail water agencies and from groundwater charges levied on retailers and on private well owners. Other revenue comes from charges for surface water diversions and from sales of recycled water in the Gilroy area. In addition, the District receives money from ad valorem taxes collected by the County.

Rate Structure for Water Deliveries that are Billed by Quantity

The District's current rates are based on uniform, quantity charges for the various sources of water and type of use. Charges are based on type of use (agricultural or M&I), zone of benefit, and quantity of water used. There are two water charge zones of benefit. Zone W-2 encompasses the Santa Clara Valley groundwater subbasin north of Metcalf Road. Zone W-5 consists of the Coyote and Llagas groundwater subbasins from Metcalf Road south to the Pajaro River (see Figure 2 in Section 1A). Within each zone, specific uniform rates are charged for each type of use depending on the source of the water/location and quantity used as presented in Table 1G (6). Treated water is available only in Zone W-2.

Table 1G (7): Adopted Water Charges for Fiscal Year 2002/03

Type of Charge	AG Water ($/AF)	M&I Water ($/AF)
Groundwater		
Zone W-2	34.00	340.00
Zone W2 with Mobile Lab Rebate	31.50	N/A
Zone W-2 with INAAP	29.50	N/A
Zone W-5	14.00	140.00
Zone W5 with Mobile Lab Rebate	11.50	N/A
Zone W-5 with INAAP	9.50	N/A
Surface Water[1]		
Half Road Deliveries[2]	28.50	154.50
Other Zone W-5 Deliveries[3]	25.75	151.75
Other Zone W-2 Deliveries[4]	45.75	351.75
Minimum Charge Zone W-5[5]	105.00	105.00
Minimum Charge Zone W-2[6]	255.00	255.00
Stored Water		
Zone W-2	34.00	340.00
Zone W-5	14.00	140.00
Treated Water		
Contract[7]	N/A	420.00
Noncontract[8]	N/A	360.00
Recycled Water		
Gilroy	20.00	80.00

[1] Surface water charge is the sum of the basic user charge plus the water master charge. It also includes the capital cost and power, wherever applicable.

[2] Half Road = Basic User (AG or M&I @ $14 or $140/AF) + Water Master ($11.75/AF) + Capital ($2.75/AF).

[3] Other Zone W-5 Deliveries = Basic User (AG or M&I @ $14 or $140.00/AF) + Water Master ($11.75/AF).

[4] Other Zone W-2 Deliveries = Basic User (AG or M&I @ $34.00 or $340.00/AF) + Water Master ($11.75/AF).

[5] Minimum Charge W-5 = 0.75 X Basic User W-5 (M&I @ $140.00/AF).

[6] Minimum Charge W-2 = 0.75 X Basic User W-2 (M&I @ $340.00/AF).

[7] Treated Water Charge is the sum of Basic User ($340.00/AF) and Treated Water Surcharge ($80.00/AF).

[8] Treated Water charge for noncontract deliveries is offered to all treated water retailers in the Rinconada Water Treatment Plant service area for deliveries from that facility. The charge for non-contract deliveries is the sum of the basic user charge ($340.00/AF) and the treated water surcharge for non-contract water ($20.00/AF).

2002 Agriculture Water Charges

Agricultural users report their surface water use semiannually based on metered usage. Groundwater used for agriculture is metered if a well's production exceeds 4 acre-feet per year in Zone W-2 or 20 acre-feet per year in Zone W-5 (as per Board Resolution No. 91-53). Water usage is calculated based on the worksheet shown in Appendix B for wells without meters (due to their low production) based on crop consumption factors approved for different agricultural activities. Individual well owners can request a meter if they feel the calculation method is unfavorable. Agricultural users can receive a rebate of $2.50 per acre-foot for taking part in the Mobile Lab Rebate Program. This program supplies localized weather information that can be used to optimize irrigation water usage. Most agricultural users also receive a rebate of $2.50 per acre-foot for participating in the Infield Nutrient Assessment Assistance Program (INAAP).

2002 Urban Water Charges

The county's water retailers and several large individual M&I users (over 100 acre-feet annually) are billed for their surface water use monthly based on metered usage. Users of less than 100 acre-feet of M&I surface water are billed semiannually. Groundwater used for M&I/urban is metered if a well's production exceeds 1 acre-foot per year in Zone W-2 or 2 acre-feet per year in Zone W-5 (as per Board Resolution No. 91-53). Water usage is calculated for wells without meters (due to their very low production). Approximately 4,000 domestic well owners in the District fall into this category, and are charged based on their calculated annual groundwater usage.

Ad Valorem Taxes

In addition to the water charges described above, activities of the Water Utility Enterprise are also financed by ad valorem taxes. The District receives a portion of the 1 percent countywide tax revenues as allocated by the County assessor. The District also levies additional ad valorem taxes under Article XIIIA of the State Constitution to meet: (a) prior approved general obligation bond debt service and (b) part of the contractual obligations for State Water Project water.

Water-use Accounting Procedures

The District maintains records of water usage on computer files, microfiche, and printed files. For the north county, records go back to 1967. For the south county, records extend back to 1987, when the District merged with the Gavilan Water Conservation District. Upon written request, the District will provide a customer with a record of the water use for his/her account. Copies of current year bills that were provided to one agricultural and one urban customer are attached in Appendix C.

H. Water Shortage Allocation Policies

H1. Current Water Shortage Policies

The District's Board of Directors has adopted Governance Policies that direct "The water supply is reliable to meet current demands (E-2.1.2)" and "The water supply is reliable to meet future demands in Santa Clara County, consistent with the County's and the cities' General Plans and other appropriate regional and statewide projections." (E-2.1.3). The CEO has interpreted these policies to mean that District should be able to manage a repeat of historical hydrology without significant customer impact. This is the District's water supply planning goal. As part of the

IWRP process, a portfolio of potential water supply projects and programs were identified to address future water shortages. Components include additional development of local conjunctive use, additional surface storage or groundwater banking, recycled water, conservation, and water transfers. It is possible that more extreme hydrologic events could occur, or implementation of IWRP components could be slower or less effective than planned. Chapter 7 of the District's Urban Water Conservation Plan (UWMP) describes how the District might respond to drought, starting with increased public education and progressing to more stringent methods based on the most appropriate response to specific circumstances.

Table 1H provides language included in the District's Treated Water Contracts regarding water shortage allocations.

Table 1H: Language included in Treated Water Contracts in Case Water Shortage Allocations are Required

Availability of Water	
1.	In any year in which there may occur a water shortage by reason of drought or other temporary cause in the supply of water available for delivery to all users, District shall, before reducing other deliveries of water, reduce, or if necessary cease, to the extent permitted by the operation of District's facilities consistent with its obligations to receive water pursuant to the State and/or Federal contract, all deliveries of untreated water for recharge of groundwater.
2.	If, despite such reduction or cessation of such deliveries of untreated water for groundwater recharge pursuant to the provisions of the preceding Section 1, a further reduction in deliveries shall become necessary if the treated water requirements set forth on the approved delivery schedule of District and Other Districts are to be met, District shall, before reducing deliveries to retailers and other districts, reduce the total amount of agricultural water (as defined in the Act) released to others for surface delivery during such fiscal year by an amount equal to the following: namely, the average of the releases of such surface-delivered agricultural water during the preceding 3 fiscal years multiplied by the percentage by which District's total receipt of water from State and Federal sources for agricultural use (as such use is defined in the State and Federal Contracts) is reduced in such year pursuant to provisions of said contracts.
3.	If any reduction in deliveries of treated water shall become necessary following reductions in untreated water pursuant to the provisions of the preceding Sections 1 and 2, District shall reduce deliveries of treated water to retailers and other districts in an amount which bears the same proportion to the total amount of such reduction that the amount included in such treated water user's approved delivery schedule bears to the total of the amount included in the approved delivery schedule of retailers and other districts for that fiscal year, all as determined by District; provided that District may apportion on some other basis if such is required to meet minimum demands for domestic supply, fire protection, or sanitation during the year. District agrees to notify retailers in writing promptly in the event any such reduction in deliveries to District and Other Districts shall be decided upon and concurrently of the amount of such reduction and of any changes in District's approved delivery schedule.
4.	District shall not be liable for failure to deliver water to retailer hereunder in the amounts herein above provided if such failure shall be caused by drought or any other reason beyond the reasonable control of District.
5.	District shall give retailers written notice as far in advance as possible of any reduction in deliveries of treated water which may be necessary because of a shortage in water supply.

H2. District's Current Year Policies that Address Wasteful Use of Water

The District's approach to reducing the wasteful use of water is to promote conservation. As described in Sections 3 and 4, the District has been very successful at encouraging local water users to conserve water. The District has developed model water use prohibitions and restrictions, and has worked closely with local retail agencies and cities to encourage their adoption and enforcement.

Reclamation staff recommend that the District develop an ordinance prohibiting water waste for the groundwater pumpers that are outside the boundaries of the 13 water retailers, but pay water management fees for the water they pump. The District has over 3000 small groundwater accounts. The District plans to develop this ordinance in the next reporting period.

As a wholesaler, the District works with local retail water suppliers to establish water use reduction targets. By working closely with its retail water agencies, the District has effectively set and achieved up to 25 percent mandatory reduction levels in the past.

Following the last drought, the District Act was amended to allow the District to develop overproduction charges for groundwater pumping. This provision, Section 26.7, allows the District the flexibility to provide any necessary incentive required to achieve cooperation on the part of local retail water suppliers.

SCVWD District Act

§ 26.7. Levy and collection of groundwater charges; rates; new or adjusted charges, reports; notice; hearing; errors. (C) The rate or rates, as applied to operators who produce groundwater above a specified annual amount, may, except in the case of any person extracting groundwater in compliance with a government-ordered program of cleanup of hazardous waste contamination, be subject to prescribed, fixed, and uniform increases in proportion to increases by that operator in groundwater production over the production of that operator for a prior base period to be specified by the board, upon a finding by the board that conditions of drought and water shortage require the increases. The increases shall be related directly to the reduction in the affected zone groundwater levels in the same base period.

Section 2. Inventory of Water Resources

A. Surface Water Supply

The District manages surface water from both local and imported sources. In addition to local surface water, the District receives imported water from both the State Water Project and from the San Felipe Division of the federal Central Valley Project.

A1. Local Surface Water Supply

Surface water supply is made up of unregulated streamflow, reservoir inflow, and downstream accretion flow**.** Table 2A (1) on the following page illustrates the historic surface water supply. Additional information can also be found in Appendix D which shows year 2002 actual surface supply by month and source in Table 1, and actual annual surface water deliveries by source from 1993 to 2002 in Table 8.

The District's local surface water supplies include the stream flows that feed into and out of the District's reservoirs, stream flows that are not captured by reservoirs, and water that flows overland into reservoirs. In total, the District holds local surface water rights for approximately 225,600 acre-feet per year. In a given year this water is either recharged, stored for future recharge, or treated or it flows in streams.

Through the District’s existing reservoir and percolation system, about 47 percent of the average surface flows are developed into local water supply yield through groundwater recharge and the rest flows in streams to the Bay supporting important habitat. The average surface flow in the county, based on the hydrologic data for the period 1967 to 1991, is about 193,700 acre-feet per year. On average, less than half of this water supply, or 91,000 acre-feet per year, can be captured and recharged into the subbasins. During a dry period, the surface water flow and the yield are approximately the same; that is, no water flows to either the San Francisco or Monterey bays. The yield averages only 54,000 acre-feet per year during a dry year. The maximum flow the District’s system can recharge is about 138,000 acre-feet per year assuming water is available, all ponds are regularly cleaned, all permitted spreader dams are in place with no environmental restrictions, no washouts of the dams occur, and there is no interference from high groundwater.

This shortfall on the long term average yield is due in part to the capacity limits of the District's storage, recharge, and conveyance facilities. Some dams and reservoirs are not large enough to capture all of the reservoir inflows that could be put to beneficial use. If a reservoir spills frequently, much of the flow that could have been developed into yield will instead flow to the Bay, or the yield of a stream system might be limited due to the downstream recharge capacity. If stream flows are much higher than the recharge capacity, much of the flow will not be developed into water supply yield. If more recharge capacity could be developed on these streams, then more of the available local streamflow could be recharged into the groundwater basin. However, environmental restrictions and cost of land in Santa Clara County make expanded recharge operations difficult.

A comparison of the District's local surface water flows and yields is shown below in Table 2A (1) by stream type. The first, unregulated streams, do not flow into or out of a reservoir. The next component, regulated streams, include reservoir inflow, which flows from creeks and over land into a reservoir, and downstream accretions, which enter a regulated stream downstream of a dam. The regulated streams have an average yield of 49 percent.

Table 2A : SCVWD's Historic Surface Water Supply

Facility	Average Surface Flow (AF/YR)	Average Local Yield (AF/YR)	Yield as Percent of Surface Flow
UNREGULATED STREAMS			
Regnart Creek	200	100	50%
Calabazas Creek	700	500	71%
Rodeo Creek	30	30	100%
Saratoga Creek	6,100	1,900	31%
Wildcat Creek	1,500	200	13%
San Tomas Creek	1,600	300	19%
Ross Creek	900	700	78%
Penitencia Creek	4,300	900	21%
Thompson Creek	900	400	44%
Silver Creek	1,600	500	31%
SUBTOTAL	**17,800**	**5,500**	**31%**
REGULATED STREAMS			
Stevens Creek Total		3,300	32%
Reservoir Inflow	10,400		
Los Gatos Creek Total		16,600	74%
Reservoir Inflow	21,900		
Downstream Accretions	400		
Guadalupe River Total		5,500	60%
Reservoir Inflow	4,900		
Downstream Accretions	4,200		
Alamitos Creek Total		4,400	38%
Reservoir Inflow	10,900		
Downstream Accretions	800		
Calero Creek Total		4,000	54%
Reservoir Inflow	4,200		
Downstream Accretions	3,200		
Coyote Creek Total		34,700	65%
Reservoir Inflow (Coyote)	31,900		
Reservoir Inflow (Anderson)	21,100		
Llagas Creek Total		9,000	87%
Reservoir Inflow	10,400		
Uvas Creek Total		8,000	16%
Reservoir Inflow	27,100		
Downstream Accretions	24,500		
SUBTOTAL	**175,900**	**85,500**	**49%**
TOTAL SURFACE SUPPLY	**193,700**	**91,000**	**47%**

A2. Imported Water Contracts

Both Central Valley Project and State Water Project supplies are imported from the San Francisco Bay/Sacramento-San Joaquin Delta. In recent years these supplies have been subject to increasing regulatory restrictions to protect environmental resources. The District has participated in ongoing processes, including the CALFED program, to identify operational measures, programs and facilities that would improve water quality, water supply, and environmental conditions related to these imported water supplies.

State Water Project
The District contracted with the State Water Project (SWP) in 1961 for a maximum of 100,000 acre-feet per year. Deliveries began in 1965. Since 1991, current regulatory conditions have sharply reduced SWP deliveries. Staff analysis of anticipated Environmental Species Act impacts and other requirements indicates that SWP deliveries may be reduced to an average delivery of 74,000 acre-feet per year in normal years and 47,000 acre-feet per year in a critical dry period.

San Felipe Project
In 1977, the District entered into a contract with the United States Bureau of Reclamation for a maximum of 152,500 acre-feet per year from the San Felipe Division of the Central Valley Project. The first deliveries occurred in 1987. During the period between 1987 and 1991, drought conditions and regulatory restrictions impacted deliveries of CVP water. During this period, deliveries averaged 72,000 acre-feet per year, and were as low as 48,375 acre-feet per year in 1991. After the drought, Reclamation established an Interim M&I Water Reliability Policy which provides some protection to Central Valley Project M&I supplies. In addition, a Water Reallocation Agreement was executed in 1997 by the District, Reclamation, and agricultural Districts in the San Luis & Delta-Mendota Water Authority, which further resolved issues related to the District’s M&I water supplies from the Central Valley Project. As a result, the District’s Integrated Water Resources Plan assumes a long-term average Central Valley Project water allocation of about 125,000 acre-feet per year, and critical dry period allocation of about 110,000 acre-feet per year.

B. Groundwater Supply

B1. Acre-foot amounts of ground water pumped and delivered by the District

The District does not operate any water supply wells.

B2. Groundwater Basins that Underlie the District

The Santa Clara Valley Groundwater subbasins provide about half of the county’s water supply for potable use, through pumping by retail water agencies or individual well owners. The basin is divided into three interconnected subbasins: the Santa Clara Valley Subbasin in the north county and the Coyote and Llagas Subbasins in the south county. Table 2B(1) lists the approximate size and operational storage capacity of each subbasin. The operational storage capacity is the volume of groundwater storage between operational maximum and subsidence threshold. A description of each subbasin follows the table, and a map of District subbasins and recharge areas is provided thereafter (Figure 5).

Table 2B : Groundwater Subbasins that Underlie the District.

Name	Size (Sq Mile)	Operational Storage Capacity (AF)
Santa Clara Subbasin	225	Currently estimated at 350,000 AF
Coyote Subbasin	15	Currently estimated at 25,000 AF
Llagas Subbasin	74	Currently estimated at 150,000 AF

Santa Clara Valley Subbasin

The Santa Clara Valley Subbasin extends from the Coyote Narrows at Metcalf Road to the county's northern boundary. It is bounded on the west and southwest by the Santa Cruz Mountains and on the east by the Diablo Range; these two ranges converge at the Coyote Narrows to form the southern limit of the subbasin. The subbasin is 22 miles long and 15 miles wide, with a surface area of 225 square miles. A confined area within the northern portion of the subbasin maintains pressure in the deeper aquifers, over 200 feet below ground surface. Flowing artesian wells occur in the northern portion of the confined area. The confining zones consist of low permeability, interbedded clay-rich deposits that begin about 50 feet below ground surface and occur discontinuously in an overlapping fashion to about 200 feet below ground surface. The southern portion of the subbasin and around the base of the mountains is the unconfined area or forebay where rare, clay-rich deposits form small discontinuous areas that are not overlapping. The forebay is the effective recharge area of the groundwater subbasins. DWR Bulletin No. 7 estimated the storage volume to be 1,770,000 acre-feet, but this estimate does not account for any operational constraints such as land subsidence. The volume of groundwater storage between operational maximum and subsidence threshold (the operational storage capacity) is currently estimated to be 350,000 acre-feet.

Coyote Groundwater Subbasin

The Coyote Subbasin extends from Metcalf Road south to near Cochrane Road, and drains into the Santa Clara Valley subbasins. This subbasin is approximately 7 miles long and 2 miles wide and has a surface area of approximately 15 square miles. The entire subbasin is unconfined and has no significant clay deposits. DWR Bulletin No. 7 lists the subbasin storage capacity at 76,000 acre-feet. District staff currently estimates the operational storage capacity is 25,000 acre-feet, accounting for constraints due to subsidence.

Llagas Groundwater Subbasin

The Llagas Subbasin extends from near Cochrane Road in Morgan Hill, south to the county's southern boundary. It is connected to the Bolsa Subbasin of the Hollister Basin and has a political boundary at the Pajaro River (the Santa Clara-San Benito County line). The Llagas Subbasin is approximately 15 miles long, 3 miles wide along its northern boundary, and 6 miles wide along the Pajaro River. The subbasin surface area is approximately 74 square miles. The confined area in the southern portion of the Llagas Subbasin is analogous to the confined area in the Santa Clara Subbasin and has flowing artesian wells. The confining zones consist of low permeability, discontinuous, interbedded, and overlapping clay-rich deposits beginning about 50 feet below ground surface to a depth of about 150 feet below ground surface. DWR Bulletin No. 7 estimates the storage volume of this subbasin at 475,000 acre-feet. District staff currently estimates the operational storage capacity is 150,000 acre-feet.

Figure 5: Groundwater Basins and Recharge Areas

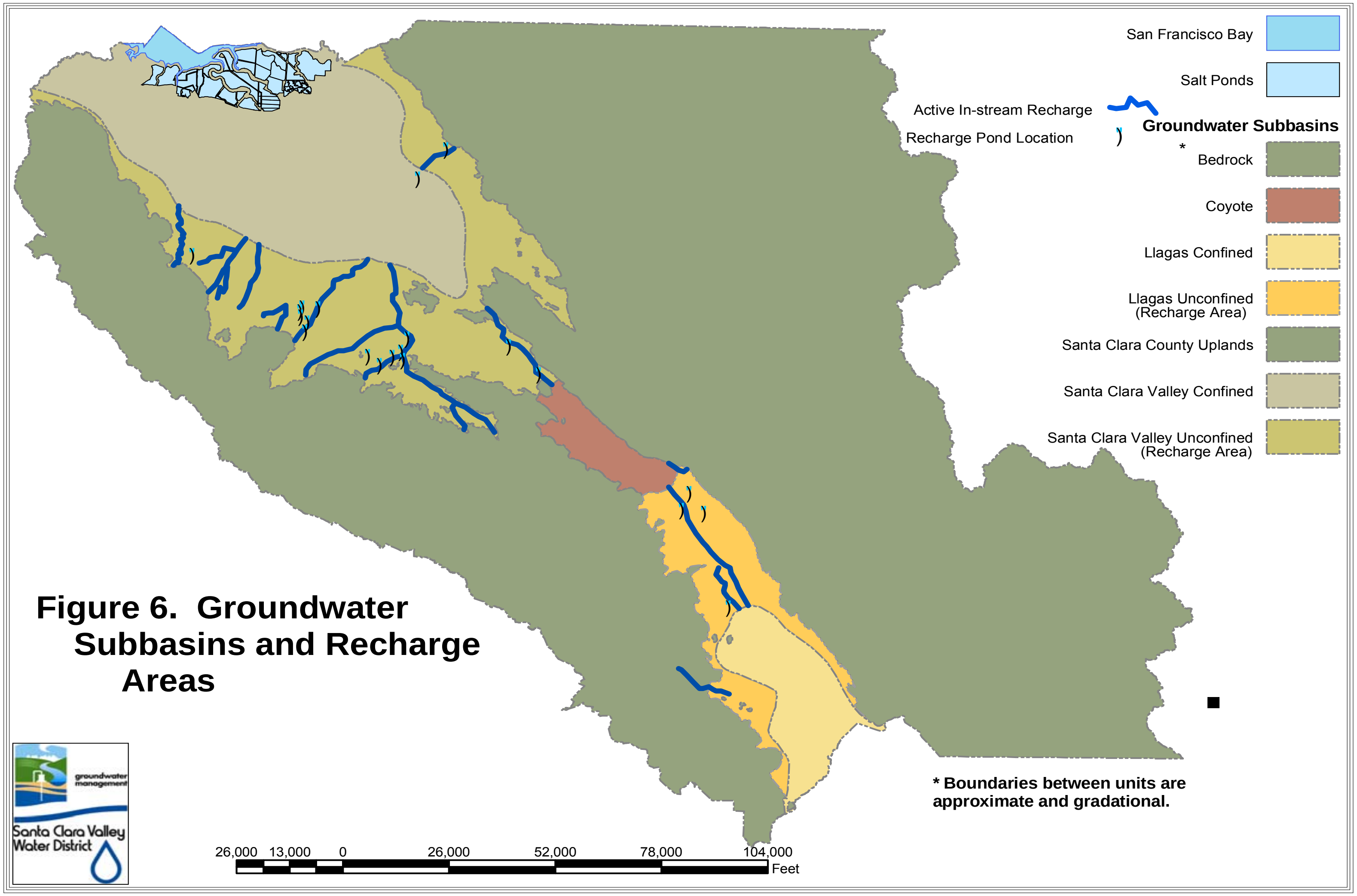


Figure 6. Groundwater Subbasins and Recharge Areas

San Francisco Bay
Salt Ponds
Active In-stream Recharge
Recharge Pond Location
Groundwater Subbasins
* Bedrock
Coyote
Llagas Confined
Llagas Unconfined (Recharge Area)
Santa Clara County Uplands
Santa Clara Valley Confined
Santa Clara Valley Unconfined (Recharge Area)
26,000 13,000 0 26,000 52,000 78,000 104,000
Feet
groundwater management
Santa Clara Valley Water District

* Boundaries between units are approximate and gradational.

B3. District-Operated Wells and Managed Groundwater Recharge Areas

The District owns many monitoring wells and a few wells that are used to irrigate District mitigation projects. None of the District owned wells are operated to provide water for agricultural or M&I use. Figure 5 (above) is a map of groundwater subbasins and recharge areas.

B4. Conjunctive Use of Surface and Groundwater

The District operates and maintains 18 major recharge ponds, with a combined surface area of approximately 390 acres, and over 22 local creeks for artificial recharge to replenish the groundwater basin. Runoff is captured in the District's reservoirs and released into both instream and offstream recharge ponds for percolation into the groundwater basin. In addition, imported water is delivered by the raw water conveyance system to streams and ponds for groundwater recharge.

The maximum flow the District's system can recharge is about 137,000 acre-feet per year, assuming water is available, all ponds are regularly cleaned, all permitted spreader dams are in place with no environmental restrictions, no washouts of the dams occur, and there is no interference from high groundwater. However, environmental concerns have limited the use of instream facilities, and actual operations may vary from year to year. On average about 91,000 acre-feet per year can be captured and recharged into the groundwater subbasin. The 2002 controlled recharge of the various systems was 107,076 acre-feet as shown in Section 2E (5).

B5. Management Plan for Groundwater Subbasins

The Groundwater Management Plan can be found on the District website at http://www.valleywater.org/media/pdf/Groundwater%20Management%20Plan.pdf .

B6. Description of the SCVWD Groundwater Banking

The District has reserved up to 350,000 acre-feet of groundwater storage capacity in the Semitropic Water Banking and Exchange Program in Kern County. Since 1996, the District has stored about 175,000 acre-feet in the program. The District has until 2006 to finalize its participation in the program for the term of the agreement, which lasts until 2035.

SCVWD is continuing to evaluate additional opportunities to further diversify its groundwater banking activities. The District's current level of "vesting" in permanent storage in the Semitropic Water Banking and Exchange program is approximately 200,000 acre-feet. Additional levels of investment in permanent storage are being evaluated in the latest update to the District's Integrated Water Resources Plan.

C. Other Water Supplies

Long-term water supplies not described above include those identified below.

Hetch Hetchy

Although the District does not contract with the San Francisco Water Department to receive water from the Hetch Hetchy Project, seven water retailers in Santa Clara County have independent contracts for Hetch Hetchy supplies. The county normally receives about 70,000 acre-feet per year from this source, but these contracts are interruptible. When the Hetch Hetchy supplies are reduced, the District is required to meet the resulting water demands. Demand is met primarily through the retailers' increasing their groundwater pumping, since few District facilities are in place in the areas with Hetch Hetchy contracts. Reported 1998 Hetch Hetchy deliveries totaled 58,497 acre-feet. Deliveries are made directly to seven retail water agencies serving the cities of Palo Alto, Sunnyvale, Mountain View, Los Altos Hills, Santa Clara, San Jose, and Milpitas. Stanford University and Moffett Field also buy water from the Hetch Hetchy system.

Long-Term Transfers

The District has entered into an innovative long-term agreement to improve dry-year reliability. In April 1999, the District entered into an agreement with Pajaro Valley Water Management Agency and Westlands Water District to transfer up to 6,260 acre-feet per year of Central Valley Project agricultural water from Mercy Springs Water District. The District's share of the agreement consists of an option for dry year water totaling 20,000 acre-feet over the next 20 years. After 20 years, Pajaro Valley Water Management Agency has the option of buying out the District's interests in the agreement.

Short Term Transfers and Exchanges

The District participates in short-term water transfers and exchanges on a routine basis. For example, in 2003 when CVP and SWP allocations initially were low, the District purchased about 28,000 acre-feet through six separate transactions. Later, when allocations were increased, the District was able to bank this water in Semitropic. The District also routinely exchanges water with other CVP contractors to manage supplies from one contract year to the next. Short-term purchases during the last drought included approximately 20,000 acre-feet from the State Drought Water Bank and 90,000 acre-feet from Yuba County Water Agency.

The District will continue to use short-term water transfers and exchanges for annual water management. The District's updated Integrated Water Resources Plan includes long-term water transfers in its water management portfolios. SCVWD will continue to evaluate opportunities to secure long-term transfers that would provide up to 40,000 acre-feet of water in dry and critically dry years.

D. Source Water Quality Monitoring Practices

Surface Water Quality Monitoring Program

The District conducts an extensive water quality monitoring program for reservoirs utilizing CVP source water. Surface water monitoring is conducted pursuant to Title 22 of the California Code of Regulations, under the direct oversight of the Department of Health Services, and an extension of the local Watershed Sanitary Survey and Drinking Water Assessment Program under the SCVWD Comprehensive Reservoir Watershed Management Plan (CRWMP).

The direct source of CVP surface water for SCVWD is the San Luis Reservoir. After CVP water reaches Santa Clara County, most of it is delivered directly to the treatment plants or used for artificial recharge. CVP water can also be stored in two local District reservoirs, Anderson and Calero, where it is blended with local runoff. The SCVWD conducts monitoring in all three reservoirs.

Anderson Reservoir can receive CVP water via the Santa Clara Conduit, but is also fed by local rainwater. Calero can receive San Luis Reservoir CVP water via the Santa Clara Conduit and the Cross Valley Pipeline, or can receive a blend of CVP and San Luis and Anderson reservoirs' source water through the Cross Valley Pipeline and is also fed by local rainwater.

The District Title 22 monitoring program includes the compliance categories of general physical, microbiological, radionuclide, general mineral, inorganic and regulated organics, which include pesticides, herbicides and volatile organic carbons.

The Comprehensive Reservoir Management Plan (CRWMP) monitoring program includes Title 22 parameters plus site specific local reservoir concerns of nutrients, fluorescence, bromide, Disinfection By-Product (DBP) precursors, ammonium perchlorate, and MTBE.

Descriptions of the monitoring programs can be found in the *2002 Annual Water Quality Report* Source/Raw Water (San Luis Reservoir section) and the SCVWD CRWMP (section Water Quality Monitoring Programs).

D1. Surface Water Quality Problems: How Quality Problems Limit the Use of Source Water

Surface water quality problems associated with San Luis Reservoir are primarily limited to algal growth events. These algal problems may arise when the level of the reservoir drops allowing algae floating near the surface to be sucked into the intake. An extensive investigation, the San Luis Reservoir Low Point Improvement Project, is underway to resolve this issue. Algal growth, and eventual die-off, creates taste and odor episodes and the possible formation of DBP precursors. Treatment plant operations can be adjusted if algal build-up is not severe. Bromide levels may become a DBP consideration in the near future with the addition of ozone processes at the water treatment plants.

Past water quality problems in Calero and Anderson reservoirs are associated with recreational use or residential growth, such as MTBE and bacteriological contamination. As stand-by drinking water sources, a program to prevent, manage, or mitigate potential water quality problems is in place called the Emergency Reservoir Operations Plan (EROP). The EROP is a method to allow water from these reservoirs to be used directly by treatment plants under a wide range of water supply and water quality emergency conditions while still allowing "incidental" water contact activities to continue. The term "incidental" excludes wading and swimming.

Groundwater Quality Monitoring Programs

The District implements a general groundwater quality monitoring program and conducts special monitoring studies on an as-needed basis. The basinwide groundwater monitoring program consists of a network of approximately 100 existing water supply wells that have been selected to provide concurrent water quality data for each of the major features of the groundwater basin. The program involves long-term sampling, data analysis and review, and reporting.

Originally selected in 1984, the sampling network has been modified in response to new drinking water standards, land use changes, and the needs of related groundwater protection programs. Samples will continue to be collected and analyzed for about 95 chemical parameters, including organic, inorganic, and emerging contaminants.

Analytical data is stored in a database which is used to track water quality trends, and display these trends in tabular and graphical formats. The database is linked to a Geographic Information System in order to utilize various land use, hydrogeologic and geographic data layers for evaluation purposes.

In addition to the basinwide monitoring program, special studies are performed in selected areas or basinwide for selected chemicals. A major past study determined the location and extent of saltwater intrusion from the San Francisco Bay into shallow drinking water aquifers and interaquifer transfer along abandoned wells into deeper drinking water aquifers.

In 2003, the District, in cooperation with the Regional Water Quality Control Board conducted groundwater sampling of public and private wells for the chemical contaminant perchlorate. The information was used to track the extent of the perchlorate plume and to aid in the determination of cleanup strategies.

Groundwater Protection Programs
District Board Ends Policy 2.1.6 directs staff to ensure that “The groundwater basins are aggressively protected from contamination and the threat of contamination.” The District takes a leading role in the protection of water quality through a variety of ongoing programs.

Although oversight of the Underground Storage Tank (UST) program was transferred to the Santa Clara County Department of Environmental Services in July 2005, the District previously oversaw investigation, cleanup, and closure of cases where soil and/or groundwater had been affected by petroleum fuel and additives such as MTBE leaking from underground storage tank systems. More than 2,430 leaking UST cases had been reported in the county, for which the District closed 80 percent between 1988 and 2005. Presently, investigation and cleanup activities are ongoing at approximately 475 active cases. Groundwater has been impacted at nearly 90 percent of the active cases and MTBE has been detected at about 75 percent of those cases. Most of the contamination associated with these sites has been limited to the upper aquifer zone. However, MTBE contamination has caused impacts in two public water supply wells. In addition, MTBE was detected in the parts per trillion range in 26 water supply wells that were sampled in the summer of 2001 as part of the California Aquifer Susceptibility Assessment project. Due to the number of closures, successful cleanup and the phase out of MTBE from gasoline in California, most of the remaining open cases are relatively low risk compared to other groundwater contaminant issues.

The District’s Well Ordinance Program administers Ordinance 90-1 (included in Appendix F), which the District adopted to protect groundwater. The program ensures that the wells, borings, and other deep excavations are constructed and destroyed according to state and District standards. A permit and inspection are required for all work on wells, deep borings, and deep excavations in Santa Clara County.

The District continues to implement a comprehensive nitrate management program to monitor nitrate occurrence, reduce consumer exposure to nitrate in drinking water, and reduce nitrate loading throughout the basin. The nitrate management program goal is to reduce nitrate concentrations in groundwater so that all wells meet the drinking water standard for nitrate. To reduce exposure to nitrate, the District offers a free nitrate analysis to all private water supply well users. Test recipients are given a copy of the results along with a fact sheet detailing what nitrate is, where it comes from, what the health risks are, how to remove nitrate using point-of-use treatment systems, and how to prevent groundwater contamination. The District conducts public outreach and education, works with other agencies, and provides direct technical assistance to growers through the Irrigation and Fertilizer Management Program. The main sources of nitrate loading are fertilizers, animal waste, and septic systems. Waste discharges from food processing plants and recycled water can also contribute nitrate to groundwater.

The District conducts the Solvents and Toxics Liaison Program, which addresses Volatile Organic Compounds (VOC) and other types of toxic contamination. The high density of dry cleaners and electronics manufacturing plants in some parts of Santa Clara County, together with heavy industry and military facilities, has resulted in several hundred known VOC release sites impacting shallow groundwater. The District provides peer review and tracks the progress of these sites, and sites with other toxic releases, to ensure that water resources are protected. The Solvents and Toxics Liaison Program worked closely with both Regional Water Quality Control Boards, the California Department of Toxics Substances Control and federal EPA in responding to investigation and cleanup actions undertaken at some of the highest risk toxics sites in the county.

Groundwater Quality Problems Which Limit Use of Source Water

In general, the majority of the groundwater in the drinking water aquifers of the Santa Clara Valley is of high quality. The District has a number of protection, monitoring, and remediation programs, as described in the previous sections, to address those localized areas where groundwater quality has been impacted by either natural or synthetic pollutants.

The natural pollutants found, their sources and the limits on source water are listed below:

- Chlorides and high total dissolved solids from saltwater intrusion into shallow aquifers around the San Francisco Bay limit the use of pumping wells in the area. Pumping from this area is prohibited by the District's well ordinance.
- Radon concentration in groundwater averages less than 300 picocuries, the EPA proposed MCL. The proposed MCL is exceeded in about 30 percent of the wells tested. Limitation on the use of this groundwater will depend on the final drinking water rules adopted by the EPA.

The anthropogenic pollutants found (which do not naturally occur in the valley), their sources, and the limits on source water are listed below:

- Nitrate concentration in about half the wells in the southern portion of the valley exceed the drinking water MCL of 45 mg/l nitrate as nitrate. Septic systems and dairies are typically the cause of elevated nitrate concentrations. The southern part of the valley relies solely on groundwater as a drinking water source.
- Chlorinated and other chemical solvents originating from more than 100 industrial sites have leaked into shallow and deep groundwater aquifers. The sources of solvents have been from storm water drainage wells, above-ground spills, and leaking underground tanks. These solvent sources are being investigated and remediated under the jurisdiction of the state with assistance from the District. There have been a number of water supply wells affected. A total of 53 private and municipal wells have been closed due to concentrations greater than MCLs. Of the 53 wells closed, 40 private wells less

than 50 feet deep were closed due to one Superfund site. Only six large municipal systems were found to contain solvents greater than MCLs. The remaining impacted wells continue to be used by well owners since concentrations are less than MCLs.

- Petroleum products have leaked at more than 3,000 underground storage tank sites in the valley. Some of this contamination has migrated into groundwater. Usually petroleum contamination is limited to shallow groundwater, though fuel products have been found at depths of greater than 110 feet below ground surface. Petroleum products have not impacted any water supply wells above MCLs.
- Methyl tertiary butyl ether (MTBE), a gasoline additive, has been detected in groundwater at more than 500 fuel leak sites and in five water supply wells. Two public water supply wells have been shut down due to MTBE contamination.
- Perchlorate is a chemical used in the manufacturing of highway flares, fireworks and rocket fuel. A plume of perchlorate in groundwater was discovered in Morgan Hill and the town of San Martin, and has been detected in several municipal supply wells. As of March, 2004, perchlorate has been detected in about 800 public and private wells.

D2. Urban Districts—Annual Customer Water Quality Report

As a wholesaler of drinking water, the SCVWD does not provide Consumer Confidence Reports (CCR) directly to customers. Instead, each water retailer develops their own CCR. A table of parameters and their values to be included in a CCR, is provided to each retail customer by the SCVWD. The parameters and analysis results can be found in the *Annual Water Quality Report—Treated Water* which is submitted to the Regional Board. The CCRs for 2002 for retailers who buy water from SCVWD are included in Appendix E. Due to the blending of District sources, this water is a mix of CVP, State Water Project and local sources.

D3. Agricultural Districts Concerns

There are a limited number of agricultural users who take direct delivery of San Luis Reservoir CVP water through turn-outs on the Santa Clara Conduit and Cross Valley Pipeline. No water quality problems have been reported by the current users. Although algae problems in San Luis Reservoir could potentially clog drip irrigation systems as they have in San Benito County, the District's metering maintenance program is designed to address clogging from sediment and algae by frequent cleaning.

D4. Current Water Quality Monitoring Programs for Surface Water

As previously stated, surface water quality problems associated with the San Luis Reservoir are primarily limited to algal growth events. A variety of analyses are conducted by the District's water quality laboratory to monitor and track the precursors to an event, the speciation of algal populations, and taste and odor constituents associated with an algal episode. Table 2D summarizes algal analysis for the San Luis Reservoir.

Table 2D: Algal Analysis for San Luis Reservoir*

Analyses performed	Frequency Range	Concentration Range	Average Range
Algal cell/ml	3 per sampling stations per month	24000-57	200-600
Fluor (Rhod-Eqiv)	all sampling stations per month	220-22	30-60
- Nutrient Precursors - NH3 mg/N03mg/l - P04 mg/l	4 per sampling stations per month	NH3: ND N03: 4.39-2.28 PO4: 1.21-.17	NH3: ND NO3: 2.50-3.50 PO4: .22-.28
TOC mg/l(Total Organic Carbon)	2 per sampling stations per month	3.75-2.76	3.4-3.5

*Complete analysis results can be found in 2002 Annual Water Quality Report: Source/Raw

D5. Agricultural District Current Year Total Dissolved Solid Range

For 2002, the total dissolved solids of the surface water varied from 130 mg/l to 341 mg/l.
For 2002, the total dissolved solids of groundwater varied from 240 to 1300 mg/l in the Santa Clara Valley Subbasin, 270 to 440 mg/l in the Coyote Subbasin, and 210 to 750 mg/l in the Llagas Subbasin.

E. Water Uses within the District

E1. Agricultural

Appendix D contains the water balance for 2002 including information about average annual crop acreage and water use from the District Water Resources Information System (WRIS). The data contained in WRIS is limited to agricultural production in the District's water utility zones that utilize groundwater and surface water supplies managed by the District. Information about individual irrigation methodologies is extremely limited. Information that has been collected with water bills is included in Table 2E (1) below. As described in Section 3, the District has a program of on-farm irrigation evaluations that teach individual farmers best management practices. Information from District CIMIS weather stations is used to allow farmers to tailor irrigation to existing weather patterns and crop needs.

Table 2E (1): Most Common Irrigation Method of 2002 Crops

Crop	Irrigation Method
Peppers	Trickle/Drip
Lettuce	Trickle/Drip
Mixed Row	Sprinkler
Cherries	Trickle/Drip & Sprinkler
Tomatoes, Bush	Trickle/Drip
Grapes(vineyards)	Trickle/Drip
Corn (sweet)	Trickle/Drip
Ornamental Plants	Sprinkler `

Note: This information was reported through SCVWD's billing process.

E2. Urban

District records for 2002 show that the water use in the county is about 90 percent municipal and industrial (M&I) use and about 10 percent agricultural use. The District is a wholesale supplier of water to 10 major M&I users or retailers.

Although the District collects and analyzes water use patterns using retailer use by class data, each of the retailers in the county uses different classification breakdowns making comparisons difficult. Consequently, detailed breakdowns of water use within the District by type such as single family, multifamily, commercial and industrial are not available. The District will work with all of its water retailers through the Water Conservation Monitoring and Evaluation Program to improve reporting uniformity and enhance account type information by the next plan update.

The total number of connections for District retailer customers was collected in a phone survey. Table 2E (2) below, lists the District related water use data for 2002, and Table 2E (3) (following page) lists total water use by the District's retailers for 2002.

Table 2E (2): Retailer Related Water Use for 2002

Customer Type	No. of Connections	Urban Retailer 2002 Use (AF)
Retail Water Purveyors	385,634	308,284*
District Surface Irrigation	42	3,100
Wholesale (Treated Water)	26 (District connections to water retailers)	144,180
Groundwater	6,175	157,800
Reclaimed	Not available	7,930
Other (Hetch-Hetchy, Stanford, San Jose)	Not applicable	69,390
Unaccounted for		0
	TOTAL	**382,400**

*Not included in total, because already included in other categories such as *Wholesale and Groundwater*.

TABLE 2E(3): Total Water (AF) Use by Retailers for 2002

Retailer	Treated Water	Ground-Water	Local Water	Hetch-Hetchy	Recycled Water	TOTAL Water Use
California Water Co.	11,302	3,827	0	0		15,129
Great Oaks Water Co.	0	13,185	0	0		13,185
City of Milpitas	4,524	0	0	7,610	796	12,930
City of Mountain View	1,343	254	0	13,193		14,790
City of Palo Alto	0	315	0	12,577		12,892
Purissima Hills	0	0	0	2,670		2,670
City of San Jose	15,275	651	0	5,207	1,281	22,414
San Jose Water Co.	81,148	56,476	7,627	0	367	145,618
City of Santa Clara	4,133	15,936	0	4,454		24,523
Stanford	0	408	0	2,555	739	3,702
City of Sunnyvale	13,094	1,366	0	10,066		24,526
City of Gilroy	0	7,965	0	0		7,965
City of Morgan Hill	0	7940	0	0		7,940
TOTALS	**130,819**	**108,323**	**7,627**	**58,332**	**3,183**	**308,284**

E3 & E4. Urban Waste Water Collection and Treatment Systems Serving the Entire District Service Area (E3) and Urban Recycled Wastewater (E4)

Table 2E(3&4) below provides data responding to both sections E3 and E4.

Table 2E(3&4): Santa Clara County Waste Water Discharge for 2002 (AF)

Treatment Plant	Discharge To So. SF Bay	Reuse	Discharge to South County
Palo Alto	26,900	76	
Sunnyvale	14,000	(reclaimed) 1,348	
San Jose	123,260	(reclaimed) 6,275	
		(on-site irrigation) 2,689	
South County Regional Wastewater Authority		(golf courses) 495	(Percolation) 6,351
Total	**164,160**	**10,883**	**6,351**

E5. Groundwater Recharge/Management/Banking in District Operated Groundwater Recharge Areas (as identified in Section 2B).

As discussed in Section 2B, the District operates and maintains 18 major recharge ponds, with a combined surface area of approximately 390 acres, and over 22 local creeks for artificial recharge to replenish the groundwater subbasins. In addition, one groundwater injection well uses treated water from the Rinconada Water Treatment Plan. The artificial recharge systems, method of recharge and controlled recharge are listed in Table 2E(5) below.

Table 2E(5): Recharge Volume and Method for each Recharge Area for 2000 - 2002

Recharge Area	Method of Recharge	2000 (AF)	2001 (AF)	2002 (AF)
Penitencia	Pond and instream percolation	5099	5010	2417
Los Gatos	Pond and instream percolation	29,262	28,896	21,064
Westside	Pond and instream percolation	12,437	12,437	9660
Guadalupe	Pond and instream percolation	23,477	22,642	17,239
Coyote	Pond and instream percolation	10,760	10,850	19,220
Lower Coyote	Pond and instream percolation	14,312	14,025	15,956
Upper Llagas	Pond and instream percolation	13,978	12,665	10,534
Lower Llagas	Pond and instream percolation	12,019	12,019	12,073
	Total	**121,344**	**118,594**	**108,163**

E6. Transfers and Exchanges (Described in Section 2C)

E7. Trades, Wheeling and Other Transactions of Water (Described in Section 2C)

E8. Other Uses of Water (Described in Section 2C)

F. Irrigation Drainage from the District

All drainage from the District service territory flows to one of two destinations: (1) San Francisco Bay to the north or (2) the Pajaro River to the south. The average local surface flow in the county is about 193,700 acre-feet per year based on the hydrologic data for the period 1967 to 1991. An unknown percentage of this flow may reach the bay or river depending on that year's hydrology and recharge operations. This, combined with wastewater treatment plant discharge of approximately 200,000 acre-feet, represents all drainage from the county.

Section 2-D discussed in detail the District's water quality monitoring programs for both surface and groundwater. Since most of the discharge from the county flows straight to San Francisco Bay, the opportunities for reuse of drainage water are limited. Currently, reclamation of wastewater is considered the only viable option for reuse.

G. Water Accounting (Inventory)

The completed tables for the Water Accounting Inventory are located in Appendix D.

Section 3. Best Management Practices for Agricultural Contractors

A. Critical Best Management Practices for Agricultural Contractors

A1. Measure the volume of water delivered by the Contractor to each customer with devices that are operated and maintained to a reasonable degree of accuracy, under most conditions, to +/- 6 percent.

As discussed in Section 1-G, the District has a comprehensive water measurement program for surface water, treated water, and groundwater. At the time of data collection for this report, one agricultural turnout (surface water) meter was clogged. Staff conducted an inventory of acreage, crop and irrigation method to calculate the amount of water used. The total amount of water used at this location, for pasture irrigation, was approximately 35 acre-feet per year. The meter was subsequently fixed and all meters presently are functioning.

A2. Designate a water conservation coordinator to develop and implement the Plan and develop progress reports.

Name: Hossein Ashktorab
Address: 5750 Almaden Expressway
San Jose, CA 95120

Title: Water Use Efficiency Unit Manager
Phone: (408) 265-2607 X2291
Fax: (408) 979.5639
E-mail: hashktorab@valleywater.org

A3. Provide or support the availability of water management services to water users.

The District has sponsored a mobile irrigation lab within its service territory since 1998. The lab is currently one component of the District's Irrigation and Fertilizer Management Program described below. The lab performs agricultural irrigation system evaluations and pump efficiency tests. The District provides financial incentives for participation in system evaluations in the form of discounts of the groundwater withdrawal fee.

The District currently owns and maintains two California Irrigation Management Information System (CIMIS) stations in the county. The District also supports the availability of CIMIS irrigation information for use in real-time irrigation scheduling through the operation of a CIMIS hotline, the District's website and through outreach efforts to help ensure that irrigators are aware of the CIMIS program, of its benefits, and of how it is utilized. Irrigation scheduling calculators for drip and sprinkler systems are available on the District's website for use with PCs or Macs.

A sample mobile lab printout, pamphlet, and a copy of the agricultural section of the District's web page are attached in **Appendix G**. (Some agricultural information is also accessible through the main District website at http://www.valleywater.org).

The District will continue to provide seminars, field days and workshops to agricultural water users to ensure that they are aware of the new and updated information regarding irrigation and nutrient management.

On-farm evaluations

1. Data for on-farm irrigation system evaluations using a mobile lab type assessment are presented in Table 3A(1).

Table 3A(1): Agricultural Irrigation System Evaluations

Total number of irrigated acres:	**17,749 +/- 300**
Number of irrigated acres to be surveyed per year by on-farm irrigation evaluations:	695
Total number of Registered Growers:	432
Number of farms to be surveyed per year by on-farm irrigation & drainage evaluations:	30

2. Timely field and crop specific water use information to the water user.

   The District service area is too large to have all the above requested information provided for every water user's field in the county. Evapotranspiration (ETo) information is available on the District's web site. Irrigation calculators based on crop and percent shaded area are available on the site as well. Irrigation scheduling consultation is available to growers through the District's Irrigation and Fertilizer Management Program. Participation in this program is encouraged through the provision of discounts of the groundwater withdrawal fee for participating growers.

Normal year and real-time irrigation scheduling and crop ETo information (i.e.,CIMIS)
The District's irrigation scheduling assistance program is one component of an integrated irrigation and fertilizer management program. Participating growers are advised by a consulting agronomist who visits fields with a frequency varying according to crop. The agronomist usually calls in a mobile lab evaluation as part of basic data gathering. The agronomist advises participating growers on their irrigation scheduling on a weekly basis based on crop, percent shaded area, published local CIMIS ETo information and type of irrigation system. The agronomist is authorized to loan soil moisture monitoring equipment to growers for two years to familiarize them with the use of this technology. As mentioned above, financial incentives are provided to encourage participation. The State Water Quality Control Board recently granted the District funds to extend this integrated program throughout the region draining to Monterey Bay National Marine Sanctuary, excepting San Luis Obispo County.

Surface, ground and drainage water quantity and quality data
See Section 2-D for water quality information and Section 2-F for irrigation drainage information.

Agricultural water management educational programs and materials for farmers, staff, and public
Outreach for the District's Irrigation and Fertilizer Management Program consists of direct mailing of brochures, fertigation workshops and seminars. The District also maintains an agricultural section on its website, www.valleywater.org., featuring CIMIS information and irrigation calculators. A new site representing the Regional Irrigation and Fertilizer Management Program will debut in 2004.

Table 3A(2): Summary of District's Irrigation and Fertilizer Management Program

Program	Co-funders (if any)	Yearly targets (audience)
Irrigation, Nutrient and Pesticide Management Seminars	Santa Clara County UC Cooperative Extension	150 - 200
Monthly Santa Clara County Farm Bureau Newsletter	Santa Clara County Farm Bureau	1700
Direct Mailing informational Materials	None	1200
High School educational programs	Live Oak High School	100-200

A4. Pricing Structure

As described in Section 1G, the District's current rates are based on uniform, quantity charges for the various sources of water type of use. Costs are in direct proportion to the amount of use. Agricultural rates are set low by the District to help preserve the open space benefits of agriculture. As stated in Section 1G, Agricultural users can receive rebates of up to $5 per acre-foot by taking part in the Mobile Lab Rebate Program and Infield Nutrient Assessment Assistance Program. The District currently plans to retain the existing billing procedures and pricing structure as detailed in Section 1G of this report.

A5. Evaluate the need, if any, for changes in policies of the institutions to which the Contractor is subject.

Uncertainty over annual allocations of CVP water in some years has caused the District to forego groundwater recharge during the early months of the District's contract year (January through March) to ensure sufficient supplies in later months to meet the anticipated needs at the treatment plants. If very low initial allocations are increased in the final April allocation, the District has lost the opportunity to recharge during the early months of the year. Finalizing Reclamation's M&I Water Supply Reliability Policy would reduce uncertainty and improve the District's ability to manage groundwater.

A second area of operational uncertainty is related to the annual low point of San Luis Reservoir. Reclamation should establish appropriate water management agreements with interests south of the Delta to provide "insurance" that the low point will not cause water quality impacts or an interruption in supply for the San Felipe Division contractors. Drinking water quality and supply impacts may occur when the reservoir falls below 300,000 acre-feet level of storage.

Reclamation's water transfer policies and application process should facilitate transfers to a greater degree. Transaction costs for transferring both Project and non-Project water should be minimized. For non-Project water ("Warren Act contracts"), the capital portion of the required cost-of-service rate should be applied to the District's repayment obligation for the facilities used.

A6. Evaluate and improve efficiencies of Contractor's pumps.

The District operates two pumping plants which include multiple pumps in parallel. Deliveries are currently scheduled from multiple sources so that water transmission and distribution systems operate by gravity whenever feasible. The system was designed to meet future demand. Increases in demand will thus necessitate significantly more pumping in the future.

Pump efficiency is rated for the range of flow rates and hydraulic grade conditions. Pumping plant operations are generally set to achieve maximum efficiency for the given hydraulic conditions and flow requirements. Pumps are tested for efficiency before and again after they are rebuilt. Additionally, the District is implementing a more automated efficiency testing process to aide in determining the optimum point to overhaul equipment.

B. Exemptible Best Management Practices for Agricultural Contractors

B1. Facilitate alternative land use

There are currently no lands in the county where irrigation leads to unmanageable problems such as high levels of selenium, saline drainage, or drainage difficulties.

B2. Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils.

The wastewater treatment plants in Santa Clara County all produce some water that is reclaimed and not discharged to the Bay. These plants are not operated by the Santa Clara Valley Water District. Reclaimed water from the South County Regional Wastewater Authority has been used to irrigate a farm and golf course in the south county since 2000.

The District, however, promotes recycled water for non-potable uses such as landscape irrigation, agricultural irrigation, and industrial processes through the public outreach described in other sections of this report (public information programs, school outreach, Agricultural Mobile Lab, etc. See Appendix G). In addition, the District plans for expansion of recycled water supply and use to 19,500 acre-feet by the year 2020.

B3. Facilitate the financing of capital improvements for on-farm irrigation systems.

Since agricultural production is such a small part of Santa Clara County's economy, facilitating financing of capital improvements for on-farm irrigation systems is not a high priority at the present. The District periodically reevaluates the economics of this financing.

B4. Incentive pricing

The District complies with this incentive pricing BMP by charging customers based on the quantity of water used. The District's water rate structure is described in detail in Section 1G. As a wholesale water supplier, the District does not utilize tiered water pricing or other water conserving rate mechanisms except in severe drought conditions as necessary to protect the groundwater basin. The pricing of agricultural water is affected by the public policy goal of retaining agricultural lands in the county for open space.

In addition, Section 26.7 of the District Act (see Appendix B) contains a provision that allows for charging increased fees for excessive groundwater pumping. This provision is intended to be used during periods of water supply shortage as an incentive to reduce demands.

B5. Line or pipe ditches and canals

Distribution System

As described in Section 1-B, the District already utilizes high pressure pipelines and lined canals to transport imported raw water and locally conserved water to various locations for treatment and distribution or for groundwater recharge.

Regulatory reservoirs

Section 1B provides a comprehensive description of the District's raw water distribution system, including existing regulatory reservoirs. The current configuration of facilities provides adequate system delivery flexibility for water supply purposes. However, the District is facing several issues that may lead to further evaluation of the feasibility, cost and benefits of additional regulatory reservoirs in the near future. These issues are: (1) improving imported source water quality by more selective timing of Delta export and/or blending; (2) improving the reliability of San Felipe Division supplies by drawing the District's allocation out of San Luis Reservoir before the annual low point; and (3) expanding the use of recycled water in Santa Clara County by appropriate treatment and blending.

B6. Increase flexibility in water ordering by, and delivery to, water users (within operational limits).

The District has identified several projects which may increase the flexibility of water supply operations and are worthy of further study. These include additional in-county surface storage, enlargement of existing water treatment facilities and other programs still being developed.

Studies are in progress to determine the feasibility, as well as the potential costs and benefits, of increasing surface water storage. Studies are also in progress to determine the cost effectiveness of treatment plant expansion.

There are significant potential benefits for the county if the District were to tie into the Hetch Hetchy water system. Principle among these benefits is the increased reliability which could be gained by using the aqueduct to convey water transfers into the county via the existing South Bay Aqueduct-Hetch Hetchy intertie. This would allow the District and the City of San Francisco to increase their respective systems' reliability through coordinated operations.

B7. Construct and operate Contractor spill and tailwater recovery systems.

As stated previously in Section 1-G, the District utilizes a high pressure distribution system to transport imported raw water as well as locally conserved water.

B8. Optimize conjunctive use of surface and groundwater.

Increase planned conjunctive use of surface and groundwater within the District

As described in Section 1A, conjunctive use was literally the organizing principle for the District when it was founded in 1929. That tradition continues. As described in Section 2A and B, and

Section 2-E3, the District has an extensive groundwater recharge program utilizing both local and imported surface water. Recharge facilities are located in the Santa Clara, Coyote, and Llagas subbasins.

As part of the District's future water supply planning efforts, several programs either are or will be investigated that would increase conjunctive use. For instance, the integrated water resources planning process recommended expanding recharge capacity and sites are currently being sought. The District's Groundwater Management Plan describes the District's conjuntive use program in detail.

Improved Understanding of the Groundwater Subbasin monitoring data

The District has developed a groundwater model for the Santa Clara Valley Subbasin. This model is being used to better define the storage capacity of the basin, and to model groundwater pumping and recharge scenarios that will help the District optimize the use of the groundwater basin. In addition, groundwater models are in development for both the Coyote and Llagas subbasins for the south county.

Additional Reservoir Storage

Another possible alternative identified as helping meet the future water supply needs of the county is additional reservoir storage. This would allow more water, local and imported, to be stored during wet years for carryover until periods when groundwater recharge and or storage capacity is available. This would increase the use of recharge facilities and the conjunctive use of the groundwater basin.

B9. Automate canal structures.

As stated previously, the District utilizes a high pressure distribution system to transport imported raw water as well as locally conserved water.

B10. Facilitate or promote water user pump testing and evaluation.

The District started the pump efficiency evaluation program on September 1998. The District is conducting and promoting pump evaluation tests for interested growers in the county through its Irrigation and Fertilizer Management Program. The pump evaluation outreach is an integral part of the program, and has been described above. The program has proven popular with growers.

Promotion is simply the marketing of the previously described Irrigation and Fertilizer Management Program. Participating growers normally receive a free pump test along with the irrigation system evaluation requested by the program's consulting agronomist because it is essential for the agronomist to know the pump's output in order to assist with irrigation scheduling. A complete pumping plant efficiency evaluation is performed as an inducement to growers to participate in the program. The pump test also provides an early deliverable to the participating grower along with recommendations for irrigation system improvements.

C. Provide a 3-year Budget for Expenditures and Staff Effort for BMPs

Three year budget information is presented in the tables that follow.

Table 3C(1): Budget and Staff Time Summary for FY2003/04

BMP*	Programs	Est. Budget	Est. Staff time
A1	Measurement	$0	0.0 FTE
A2	Conservation staff	$0	0.0 FTE
A3	On-farm CIMIS Water quality Agricultural Education Program Mobile Lab	$2,000 $150,000 $700 $40,000	.025 FTE 0.3 FTE .075 FTE 0.2 FTE
A4	Quantity pricing	$0	0.0 FTE
A5	Policy changes	$0	0.0 FTE
A6	Contractor's pumps	$0	0.0 FTE
B1	Alternative land use	$0	0.0 FTE
B2	Urban recycled water use	$0	0.0 FTE
B3	Facilitate financing of on-farm systems	$0	0.0 FTE
B4	Incentive pricing	$0	0.0 FTE
B5	Line or pipe canals/install reservoirs	$0	0.0 FTE
B6	Increase delivery flexibility	$0	0.0 FTE
B7	District spill/tailwater system	$0	0.0 FTE
B8	Optimize conjunctive use	$0	0.0 FTE
B9	Automate canal structures	$0	0.0 FTE
B10	Customer pump testing	$0	0.0 FTE
	TOTAL	**~$212,700**	**~1.0 FTE**

Table 3C(2): Budget and Staff Time Summary for FY2004/05

BMP*	Programs	Est. Budget	Est. Staff time
A1	Measurement	$0	0.0 FTE
A2	Conservation staff	$0	0.0 FTE
A3	On-farm CIMIS Water quality Agricultural Education Program Mobile Lab	$2,000 $150,000 $700 $40,000	.025 FTE 0.3 FTE .075 FTE 0.2 FTE
A4	Quantity pricing	$0	0.0 FTE
A5	Policy changes	$0	0.0 FTE
A6	Contractor's pumps	$0	0.0 FTE
B1	Alternative land use	$0	0.0 FTE
B2	Urban recycled water use	$0	0.0 FTE
B3	Facilitate financing of on-farm systems	$0	0.0 FTE
B4	Incentive pricing	$0	0.0 FTE
B5	Line or pipe canals/install reservoirs	$0	0.0 FTE
B6	Increase delivery flexibility	$0	0.0 FTE
B7	District spill/tailwater system	$0	0.0 FTE
B8	Optimize conjunctive use	$0	0.0 FTE
B9	Automate canal structures	$0	0.0 FTE
B10	Customer pump testing	$0	0.0 FTE
	TOTAL	**~$212,700**	**~1.0 FTE**

Table 3C(3): Budget and Staff Time Summary for FY2005/06

BMP*	Programs	Est. Budget	Est. Staff time
A1	Measurement	$0	0.0 FTE
A2	Conservation staff	$0	0.0 FTE
A3	On-farm CIMIS Water quality Agricultural Education Program Mobile Lab	 $2,000 $150,000 $700 $40,000	 .025 FTE 0.3 FTE .075 FTE 0.2 FTE
A4	Quantity pricing	$0	0.0 FTE
A5	Policy changes	$0	0.0 FTE
A6	Contractor's pumps	$0	0.0 FTE
B1	Alternative land use	$0	0.0 FTE
B2	Urban recycled water use	$0	0.0 FTE
B3	Facilitate financing of on-farm systems	$0	0.0 FTE
B4	Incentive pricing	$0	0.0 FTE
B5	Line or pipe canals/install reservoirs	$0	0.0 FTE
B6	Increase delivery flexibility	$0	0.0 FTE
B7	District spill/tailwater system	$0	0.0 FTE
B8	Optimize conjunctive use	$0	0.0 FTE
B9	Automate canal structures	$0	0.0 FTE
B10	Customer pump testing	$0	0.0 FTE
	TOTAL	**~$212,700**	**~1.0 FTE**

Section 4. Best Management Practices for Urban Contractors

The Best Management Practices for Urban Contractors required in this CVPIA Water Conservation Plan are based on those outlined in the California Urban Water Conservation Council (CUWCC) 1991 *Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices* (MOU). These 14 Best Management Practices (BMPs) are the content of Section 4.

As a signatory to the MOU, the District is firmly committed to the implementation of the Best Management Practices. The 14 BMPs are summarized in Table 4A. The District substantially contributes to the implementation of eight of the BMPs, and as the water wholesaler for Santa Clara County, the District is responsible for implementation of the six BMPs identified in Table 4B.

The District and its water retailers enjoy a special cooperative partnership in the regional implementation of a variety of water conservation programs in an effort to permanently reduce water use in Santa Clara County. In addition to the eight water agencies which participate under the umbrella of the District, five agencies have independently signed the MOU.

Table 4A: Urban Water Conservation BMP Summary

BMP No.	Program Name	Coverage Requirements	County-Wide Implementation Requirements by 2008	Implemented By
1 * ***	Water Survey Program	Not less than 15% of single-family residential accounts to receive water use surveys within 10 years of the implementation date. Not less than 15% of multi-family units to receive water use surveys within 10 years of the implementation date.	Complete surveys for 53,000 - SF units and 29,000 - MF units by 2008 from census data = SF total in 1998 - 355,000 and MF total in 1998 - 195,000	District, with assistance from all retailers, throughout the county except for San Jose Water Co. area, they have their own program
2 * ***	Plumbing Retrofit	Distribution and installation program covering 10% of SFD and MFD each reporting period. The program must continue until the District can demonstrate that 75% of SFD and MFD have been retrofitted.	Approximately 583,000 SF and 175,000 showerheads retrofitted. From CA Dept of Finance - 353,000 pre 1992 SF Homes and 194,000 pre 1992 MF units (from District's BMP 1 program, assumes 2.2 and 1.2 showerheads per household in SF and MF respectively)	District with assistance from all retailers
3	Water System Audits	Maintain an active auditing program of the distribution system. Identified leaks must be repaired when cost-effective.	Maintain active distribution system auditing program.	- District maintains for main pipelines - See Appendix H
4	Metering w/Commodity Rates	100% of existing unmetered accounts to be metered within 10 years.	100% metered	All Retailers and City governments
5 ***	Large Landscape Program	1) Water use budgets developed for 90% of CII accounts with dedicated landscape services by second reporting period. 2) At least 20% of CII accounts contacted each reporting period, and landscape audits offered. 3) Landscape audits completed for at least 15% of CII accounts with mixed-use meters within 10 years of implementation date.	Difficult to calculate requirement - do not have access to water retailer's billing data, however the District estimates there are approximately 42,000 mixed-use meters and 8,000 dedicated meters at large landscape sites throughout the county. For future annual reports, will reference each retailer's updated 2005 Urban Water Management Plan.	District implements programs for entire county with assistance from all retailers

Table 4A: Urban Water Conservation BMP Summary (continued)

BMP No.	Program Name	Coverage Requirements	Implementation Requirements by 2008	Implemented By
6 * ***	Washing Machine Program	Cost-effective incentive for the purchase of high-efficiency washing machine offered if incentives are also offered by local energy service provider or waste water utility.	Continue to offer cost-effective incentives while local energy service provider or waste water utility offers an incentive.	District with assistance from all retailers
7	Public Information Program	Maintain an active public information program to promote and educate customers about water conservation.	Maintain active program through 2008	District and Retailers
8	School Education Program	Maintain an active school education program to promote and educate students about water conservation and efficient water uses.	Maintain active program through 2008	District maintains in cooperation with all retailers
9 ** ***	Commercial, Industrial, Institutional Program	CII ULFT program water savings equal to 3% of Total Water Savings Potential by July 1, 2004. PLUS EITHER: 1) 10% of CII customers to accept water use surveys within ten years of implementation date OR: 2) Reduce water use by CII customers by at least 10 percent from the base year 1997	Difficult to calculate requirement - do not have access to water retailer's billing data. In future will reference each retailer's updated 2005 Urban Water Management Plan.	District implements programs throughout county in cooperation with all retailers. District receives cost-sharing dollars from City of San Jose, San Jose Water Co., City of Palo Alto, City of Santa Clara, and
10	Wholesaler Assistance	1) Cost-effective assessments for each BMP the agency is potentially obligated to support 2) Agency-avoided cost per acre-foot of new water supplies 3) The total monetary amount provided to retail members to assist or otherwise support the implementation of BMPs 4) The total amount of verified water savings achieved by each wholesaler-assisted BMP	Maintain a wholesaler assistance program	District

Table 4A: Urban Water Conservation BMP Summary (continued)

BMP No.	Program Name	Coverage Requirements	Implementation Requirements by 2008	Implemented By
11	Conservation Pricing	Maintain rate structure consistent with definition of conservation pricing.	Adopt and maintain conservation pricing	District maintains a flat rate. Some retailers have voluntarily adopted tiered pricing systems. See Appendix I
12	Conservation Coordinator	Agency shall staff and maintain the position of conservation coordinator and provide support staff as necessary.	Staff and maintain Conservation Coordinator Position	District See Appendix J
13	Water Waste Prohibition	Adopt water waste prohibitions as previously outlined	Adoption of measures consistent with BMP	Retailers See Appendix K
14 * ** ***	Residential ULFT Program	Water savings from ULFT replacement programs at least as effective as an ordinance requiring the replacement of high-water-using toilets with new ULFTs. Replacement program to last ten years	Program as effective as retrofit upon resale ordinance. See attachments 14-1 and 14-2 for a detailed analysis.	District with assistance from all retailers. The City of San Jose has also implemented several ULFT programs. Additionally. District has completed this BMP for the county.

* City of San Jose cost shares on behalf of eight cities that feed the San Jose/Santa Clara Wastewater Treatment Plant.

** City of Sunnyvale cost shared in 2002.

*** City of Palo Alto cost shared in 2002.

Santa Clara Valley Water District is the water wholesaler for the Santa Clara County. As such, the District is responsible for implementing a number of the Best Management Practices presented in Table 4A. These BMPs are identified in Table 4B below. The BMP number in Table 4B corresponds to the BMP number in Table 4A.

Table 4B: Wholesaler Best Management Practices

BMP No.	Program Name	Coverage Requirements	Implementation Requirements by 2008
3	Water System Audits	Maintain an active auditing program of the distribution system. Identified leaks must be repaired when cost-effective.	Maintain active distribution system auditing program.
7	Public Information Program	Maintain an active public information program to promote and educate customers about water conservation.	Maintain active program through 2008.
8	School Education Program	Maintain an active school education program to promote and educate students about water conservation and efficient water uses.	Maintain active program through 2008.
10	Wholesaler Assistance	1) Cost-effective assessments for each BMP the agency is potentially obligated to support. 2) Agency-avoided cost per acre-foot of new water supplies. 3) The total monetary amount provided to retail members to assist or otherwise support the implementation of BMPs. 4) The total amount of verified water savings achieved by each wholesaler-assisted BMP.	Maintain a wholesaler assistance program.
11	Conservation Pricing	Maintain rate structure consistent with definition of conservation pricing.	Adopt and maintain conservation pricing.
12	Conservation Coordinator	Agency shall staff and maintain the position of conservation coordinator and provide support staff as necessary.	Staff and maintain conservation coordinator position.

1. Water Survey Programs for Single-Family and Multi-Family Residential Customers

The District is required to develop and implement a strategy to target and market water-use surveys to single-family and multi-family residential customers. By July 1, 2008, the District should have completed residential surveys for 15 percent of all single-family and multi-family customers (approximately 80,000 surveys). Including partial credit for previously completed residential water surveys (audits) performed by San Jose Water Company, an average of approximately 8,000 surveys per year countywide are needed to stay on track to meet the overall coverage requirement. It should be noted that the annual target will ramp up each year. Since 1998, the District has performed over 10,000 residential audits.

To work towards attaining this goal, staff developed a pilot program in July of 1998 targeting the top 20 percent of residential customers within the five participating water retailers (the cities of Milpitas, Morgan Hill, Mountain View, Santa Clara, and the San Jose Municipal Water System). Water savings per survey ranged from 43 to 78 gallons per day from a sample of survey participants. Surveys include educating customer on how to read a water meter; checking flow rates of showerheads, faucet aerators and toilets; checking for leaks; installing low-flow showerheads, aerators and/or toilet flappers if necessary; checking irrigation system for efficiency (including leaks); measuring landscaped area; developing an efficient irrigation schedule for the different seasons; and providing customer with evaluation results, water savings recommendations, and other education materials.

The District also supports San Jose Water Company's residential survey program, by providing free water conservation supplies, such as showerheads and faucet aerators. The District's largest retailer, the San Jose Water Company (SJWC), offers water surveys for customers who call regarding a high water bill and/or in response to District and their own marketing efforts. SJWC began performing residential audits at the end of 1991 and is estimated to have completed well over 9,000 audits since the program began. Water meters are tested for accuracy, and an examination is performed throughout the household to identify any water leaks. In addition to the indoor residential audits, SJWC further developed the landscape component of their audit program in 1994 to provide an extensive evaluation of the resident's landscape irrigation system. Through this program, residents are also trained on how to efficiently program their irrigation controllers. Over the next five years, San Jose Water Company expects to complete over 12,000 single-family and 1,500 multi-family residential surveys with a proposed budget of approximately $180,000 a year.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Number of single-family and multi-family residential accounts in service area.*

  The correct number for reference in this BMP is the number of single family and multi-family units in 1998 (the base year). Approximately 355,000 single-family and 195,000 multi-family residential units were in the District's service area in 1998 (base year). This number will not change, and will be reported every year. These numbers include approximately 185,000 single-family and 100,000 multi-family residential units in San Jose Water Company's service area.

- *Number of single-family residential surveys offered during reporting period.*

  This program was first offered by the District for its retailers, except SJWC, beginning in July 1998. SJWC has offered residential surveys to its customers since the end of 1991.

  In FY2001/02, the District, in cooperation with its retailers, offered surveys to 40,000 single-family accounts via letters mailed to the highest 30 percent of water users within the participating retailers. This program was also promoted through a summer media campaign, which included television, radio and print ads. SJWC sent out bill inserts mentioning this program to all of its customers, which include approximately 187,000 single-family units.

- *Number of single-family residential surveys completed during reporting period.*

  In FY2001/02, the District completed 2,125 single-family surveys for the retailers participating in this program. SJWC completed 227 single-family surveys during this time.

- *Number of multi-family residential surveys offered during reporting period.*

  This program was first offered by the District for its retailers, except SJWC, beginning in July 1998. SJWC has offered residential surveys to its customers since the end of 1991.

  In FY2001/02, letters were mailed to 1,000 multi-family accounts throughout the District's service area. San Jose Water Company offered surveys via a bill insert to all of their 101,000 multi-family units. This program was also promoted through a summer media campaign, which included television, radio, and print ads.

- *Number of multi-family residential surveys (units) completed during reporting period*.

  In FY2001/02, the District completed surveys in 3,273 multi-family units. SJWC completed 204 multi-family units during this time.

- *Monitor water-use changes in consumption at surveyed accounts, individually and as a group.*

  This is currently beyond the scope of this BMP as outlined in the Memorandum of Understanding regarding Urban Water Conservation in California. However, the District did monitor the water use at a selected sample of 100 pilot program (1998) participants and found that water use declined between 43-78 gallons per day for single family survey participants. The households that were offered surveys during this pilot program were within the top 20 percent of water users for each of the participating retailers. Since 1998, this program has been offered to all residential customers, and it is expected that the water savings will decline as a result. The District plans to conduct an analysis of this program, including calculating the savings associated with these surveys, in the near future.

2. Residential Plumbing Retrofit

This BMP calls for high-quality, low-flow showerheads to be distributed to not less than 10 percent of single-family connections and multi-family units every two years until a 75 percent saturation of pre-1992 residences is obtained. The District makes low-flow showerheads and aerators available to residents free of charge through the water retailers, residential water surveys, and public events. Since program inception in 1992, 166,000 low-flow showerheads and aerators have been distributed throughout the county.

The District believes it is likely that the county is nearing the 75 percent saturation threshold.

This is based upon the fact that current efficiency standards require that only low-flow showerheads be sold within the United States. The CUWCC report, Guide to Data and Methods for Cost-Effectiveness Analysis of Urban Water Conservation Best Management Practices, estimates the average lifespan of a showerhead to be 3-7 years, and the average lifespan of an aerator to be 1-3 years. Given that 10 years have passed since the efficiency standard was enacted, the majority of showerheads in pre-1992 construction have likely been replaced already.

The District plans to conduct a study in FY2003/04 to confirm the saturation rate for low-flow showerheads. Until this study is completed, the District will continue to provide free low-flow showerheads and aerators on demand.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *The total number of non-retrofitted pre-1992 single-family residences and multi-family units*.

  This is currently beyond the scope of this BMP as outlined in the Memorandum of Understanding regarding Urban Water Conservation in California. The CUWCC MOU as amended September 16, 1999 requires the following for documenting BMP implementation: “The target population of pre-1992 single family residences and multi-family units to be provided showerheads and other water saving devices.” The correct number to report is thus the number of pre-1992 single family residences and multi-family units regardless of whether they were retrofitted. The number of pre-1992 homes (from the California Department of Finance) is reported in Table 4C, below.

Table 4C: District Low-Flow Showerhead Replacement BMP Target

Pre-1992 SF Homes	Pre-1992 SF Showerheads	SF Annual Retrofit Target	Pre-1992 MF Homes	Pre-1992 MF Showerheads	MF Annual Retrofit Target	Total Annual Retrofit Target
353,657	778,045	38,902	194,227	233,072	11,654	50,556

Notes: 1. Pre-1992 housing data obtained from CA Dept. of Finance
2. Assumes 2.2 and 1.2 showerheads per household in SF and MF, respectively.
3. Data is from District’s residential water survey program.

- *The number of retrofit kits distributed and installed during previous reporting period.*

  Since program inception in 1992, 166,000 low-flow showerheads and aerators have been distributed throughout the county. In FY2001/02, District staff distributed 13,696 showerheads. It is difficult to determine whether all of the retrofit kits that were distributed were installed or not.

- *The estimated percentage of pre-1992 single-family residences and multi-family units in service area fitted with low flow showerheads and faucet aerators.*

  The District believes it is likely that the county is nearing the 75 percent saturation threshold (see above text for further discussion of this estimate).

3. System Water Audits, Leak Detection and Repair

The District fulfills this BMP by having operated a distribution system survey and leak detection program since 1991. The District integrates its Leak Detection Program in the operation and maintenance of its wholesale treated water distribution and groundwater recharge systems. All facilities are 100 percent metered or gauged. The District's Leak Detection Program includes 24-hour-per-day monitoring of meters on all major conveyance facilitates, daily flow records, monthly inspections and water balances. Meters are calibrated regularly as part of the District's preventive maintenance program.

Flows in major facilities are monitored continuously with a SCADA system at the District's operations center, located at the Rinconada Water Treatment Plant and at each of the District's other two water treatment plants. Technicians and operators perform daily inspections and record metered and gauged flows daily to verify system integrity. Each month, right-of-ways, in which facilities are buried, are inspected by helicopter for signs of leakage. An overall water balance and a treated water balance are conducted monthly to establish distribution and to identify possible meter problems or leakage. Typical error is within 3 percent. An error of greater than 5 percent will result in an investigation.

The District operates a facility for meter testing. Smaller meters up to 24 inches are tested based upon volume or time period. The program follows AWWA standards. Larger meters are periodically tested volumetrically where feasible. All meters are regularly calibrated to manufacturer's specifications as part of the District's preventive maintenance program.

The District's retailers also perform water system audits to check for leaks. A table summarizing the results from the District's retailers is included in Appendix H.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Prescreening audit results and supporting documentation.*

  Prescreening audit results from 1997 through July of 2000 are shown in Table 4D (next page).

Table 4D: Prescreening Audit Results for 1997-2000

METERED VOLUMES CONVEYED AND APPARENT IMBALANCE (LOSS/GAIN)
IN RAW AND TREATED WATER DISTRIBUTION SYSTEMS
(ACRE-FEET)

1997 -99

	1997	1998	1999	2000*
SUPPLY (inflow)				
IMPORT (Revenue Meters)	151,851	118,289	170,108	80,392
LOCAL	22,152	32,280	12,565	5,011
TOTAL	174,003	150,569	182,673	85,403
DISTRIBUTION (outflow)				
TREATED (Revenue Meters)	132,350	122,032	130,938	58,965
RELEASED	39,612	26,681	50,071	25,762
UNTREATED	2,259	1,533	2,023	982
TOTAL CONVEYED	174,221	150,246	183,032	85,709
APPARENT GAIN/(LOSS)	218	(323)	359	306
APPARENT GAIN/(LOSS) %	0.1%	-0.2%	0.2%	1.0%

*Through July

4. Metering with Commodity Rates, for all New Connections and Retrofit of Existing Connections

This BMP requires water meters for all new connections and billing by volume of use, as well as establishing a program for retrofitting any existing unmetered connections. The District implements this BMP in accordance with the MOU by metering and billing by volume of use all retail agency potable water supply deliveries. All municipal and industrial water retailers in the county are currently metered and were metered prior to the adoption of the MOU.

5. Large Landscape Conservation Programs and Incentives

This significantly revised BMP calls for agencies to commence assigning reference evapo-transpiration-based (ETo) water use budgets to accounts with dedicated irrigation meters and providing water-use surveys to accounts with mixed-use meters by July 1, 1999.

Since 1995, the District has offered and provided large landscape water audits to sites in the county with one acre or more of landscaping. Landscape managers are provided with water-use analyses, scheduling information, in-depth irrigation evaluation, and recommendations for affordable irrigation upgrades. Each Irrigation Technical Assistance Program (ITAP) site and the appropriate retailer receive a detailed report upon completion of the audit. An annual report is generated to recap the previous year's efforts. To generate several reporting and monitoring options, water use history, meter numbers, account numbers, and site contacts and addresses are captured for each site in a specialized database.

ITAP reaches the community through advertising in Tri-County Apartment Association's monthly *Apartment Management* magazine, colorful flyers at the biannual Home & Garden Show, NCTLC Turf & Landscape Expo, the *San Jose Mercury News*, and retailer outreach through direct mailing of personalized letters to high water use customers and also through city newsletters and business newsletters.

This highly successful and well-received program has conducted over 450 audits to date. This program is achieving potential water savings of 2,226 acre-feet per year. These audits/surveys will be credited towards the new BMP requirement.

The District's staff is currently working on a comprehensive program to develop ETo-based water-use budgets for all large landscape sites by using aerial images and GIS techniques. The project will acquire multi-spectral images of over 900 square miles of Santa Clara County, perform image analysis (classification) to identify the areas of turf, other landscaping, water features, bare ground and hardscape for each parcel (site) and prepare a database of these areas to support Landscape Water Budgets as well as support ITAP.

The goal of the water budget program is to calculate the irrigated landscape area for approximately 50,000 irrigation-only and mixed-use commercial accounts that are distributed over a 900-square-mile area representing Santa Clara County. The irrigated landscape area will be used along with real-time ETo data to calculate a water budget (recommended landscape irrigation water use).

The District will routinely update each budget using ETo data from the California Irrigation Management Information System (CIMIS) so that the budgets reflect actual site irrigation demands during the most recent billing cycle. Concurrently, the District is developing a database-backed website (webITAP) to deliver real-time Landscape Water budget information to property and landscape managers via the web. It is projected that these Landscape Water Budgets will reduce water use for these sites by at least 10 percent (or 5,000 acre-feet per year for the entire county).

By offering monthly water budgets to all large landscape sites in the county the District will be in compliance with this BMP.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

Dedicated Landscape Irrigation Accounts:

- *Number of dedicated irrigation meter accounts*.

  Based on both estimated and actual data provided by the District's water retailers, there are more than 7,700 Dedicated Landscape Irrigation Accounts in the whole county (FY 2001-02).

- *Number of dedicated irrigation meter accounts with water budgets*.

  The number of dedicated irrigation meter accounts with water budgets cannot be determined precisely. This is due to lack of data from the District's water retailers. However, based on the ITAP data, more than 500 sites have water budgets. (FY2001-02)

  Once the District has its web-based water budget program available, it will be able to calculate this for future annual reports.

- *Aggregate water use for dedicated landscape accounts with budgets*.

  The number of dedicated irrigation meter accounts with water budgets cannot be determined precisely. This is due to lack of data from the District's water retailers.

  Once the District has its web-based water budget program available it will be able to calculate this for future annual reports.

- *Aggregate budgeted water use for dedicated landscape accounts with budgets*.

  The number of dedicated irrigation meter accounts with water budgets cannot be determined precisely. This is due to lack of data from the District's water retailers.

  Once the District has its web-based water budget program available it will be able to calculate this for future annual reports.

Mixed Use Accounts

- *Number of mixed use accounts*

  There are approximately 42,000 mixed use accounts in the whole county, which includes multifamily residential accounts.

- *Number, type, and dollar value of incentives, rebates, and no, or low interest loans offered to, and received by, customers.*

  There are currently no District programs in place to offer incentives, rebates, or no/low interest loans to customers.

- *Number of surveys offered*

  ITAP surveys are offered to over 1,000 customers each year.

- *Number of surveys accepted*

  Approximately 70-90 customers accept an ITAP survey each year.

- *Estimated water savings by customers receiving surveys and implementing recommendations.*

  Estimated water savings vary between sites, but the average water savings is 358 acre-feet per acre of landscaping per year.

6. High-Efficiency Washing Machine Rebate Programs

The District has offered a washer rebate in conjunction with PG&E since July of 1995. The District has offered a $75 rebate since 1995, and has received reimbursement of $25 for each high-efficiency machine installed within the service area of the San Jose/Santa Clara Water Pollution Control Plant (the Plant) since 1998. Beginning July 1, 2000, the District increased its rebate to $100 since it began receiving an increased reimbursement of $50 per qualifying machine from the City of San Jose, which operates the Plant. In FY2001/02, District was part of a regional group that was awarded grant money for high-efficiency washing machine rebates. The rebate amount has remained at $100, with $50 coming from grant money (at this point the City of San Jose reduced their reimbursement amount to $25).

The District has given out over 25,000 rebates since the program began in 1995. In FY2001/02, the District gave customers rebates for 6,176 high-efficiency washers; 5,011 in FY2000/01; 4,889 in FY1999/2000; 5,345 in FY1998/99; 2,541 in FY1997/98; 306 in FY1996/97; and 21 in FY1995/96.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Customer incentives to purchase high-efficiency washing machines being offered by local energy service providers, if any.*

  PG&E's rebate has decreased from a range of either $50 or $100, depending upon the efficiency of the machine, to a flat rebate of $75 for each qualifying machine.

- *Data to determine the amount of a high-efficiency washing machine incentive that would be cost effective for the Contractor to provide its customers.*

  In 1999, District staff examined the cost-effectiveness of the residential high-efficiency washing machine rebate program. It was found that the District should offer a rebate of about $60 per machine based upon the lifetime of the measure (12 years, from the CUWCC's guidelines for preparing a cost-effective analysis), the cost savings estimate (5,100 gallons per year) and the avoided cost of new supply.

7. Public Information Programs

This BMP requires agencies to implement and maintain public information programs to promote water conservation and educate customers about water use. The District considers its public education and school programs to be essential components of a water conservation program. The District operates an extensive public information program and associated schools program which provide materials, speakers and outreach activities to the general public. The District employs a professional staff of 10 to provide outreach related to water conservation, urban runoff pollution, water recycling, watershed and flood protection and water quality. In addition, Water Conservation Unit staff conducts targeted outreach tailored to individual conservation programs.

Outreach activities include publications and Web site development, public meetings, District participation at community events, multi-media campaigns, inter-agency partnerships, corporate environmental fairs, professional trade shows, water conservation workshops and seminars and a speaker's bureau.

In the spring of 2001 (and extending through the fall), an extensive campaign linking water and electricity conservation was launched. In spring 2002, a campaign targeting outdoor water use was launched.

Specific water conservation programs are detailed below.

Residential Landscape Program

This program targets both single-family homeowners and the green industry professionals that serve them. This multi-element approach was designed to provide assistance at all points in the decision-making process: during the design, purchase of material, and upkeep and maintenance on existing landscape. The program currently consists of the following programs:

Nursery Program

To increase the public's awareness of water-efficient gardening techniques, in 1995 the District developed the Nursery Program, which consists of a series of educational materials and store displays that have been distributed and maintained in nurseries throughout the county.

The program includes literature racks offering free informational sheets about water-wise gardening. The nursery program literature is currently being revised and will continue to be displayed in county nurseries.

Water Efficient Landscape Workshop Series

Each spring, the District hosts its Water-Efficient Landscape Workshop Series for county residents. The series consists of three consecutive class sessions addressing topics such as garden design, plant selection, irrigation design and installation, and maintenance techniques. The series draws approximately 100 attendees each year.

Spanish-Language Irrigation Workshop Series

These biannual workshops provide hands-on training to Spanish-speaking landscape professionals on irrigation controller programming, system scheduling, and irrigation trouble-shooting. This seminar is supported by irrigation manufacturers who donate equipment and materials for the hands-on portion of the class. Each class of approximately thirty landscape professionals typically maintains over 400 sites in the county.

Landscape Water Management Seminar

Designed for landscape irrigation professionals, this seminar provides training in irrigation system evaluations, water budgeting and water-use tracking. Made possible through a partnership with the Irrigation Training and Research Center of Cal Poly, these ongoing training sessions are typically offered once a year.

Bill Inserts

In the fall of 1999, the District developed a bill insert promoting the reduction of landscape water use by reminding homeowners to cut back on their watering schedule during the fall and winter months. This insert has been mailed each year in October/November.

Industry-Specific Workshops.

In May and June 1995, the District, in conjunction with the City of San Jose, hosted three Cooling Tower Workshops developed by Black & Veatch and sponsored by the Metropolitan Water District of Southern California. The workshops outlined the fundamentals of cooling tower operation and water conservation technologies. The workshop drew participants from over 35 businesses/corporations in the county.

Leak Detection Workshop

In June 1996, the District hosted a Water Audit and Leak Detection Seminar developed by the Department of Water Resources. Targeted at water agencies and retailers in Northern California, this two-day seminar taught participants how to perform a water audit of their distribution systems and techniques in which they could detect leakage.

Peninsula Conservation Center's Business Environmental Awards Program

In 1999, the eighth annual awards program recognized small and large businesses in the county that implemented environmental programs within their businesses. The District cosponsors this award each year by providing support for the production of brochures and application materials. District staff also serves on the selection committee for the water category.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Number of public speaking events relating to conservation during reporting period*

  Approximately 18 public speaking events mention water conservation annually, and outreach extends to Spanish and Vietnamese audiences where possible. See the above text for examples of specific programs.

- *Number of media events relating to conservation during reporting period*

  There were many media releases, press conferences, and media inquiries (which may result in articles or television spots) dealing with water conservation in the past several years.

  The "Hey Mrs. Noah" program was developed in July of 1999 to promote water efficiency, and specifically the end of the District's toilet rebate program, along with the residential clothes washer and residential survey program. This media campaign began in July of 1999 and ran through September 1999. Outreach included advertisements on the radio, on buses, in newspapers, and through bill inserts. Numbers for each medium used are detailed below.

Radio: Six stations (including Spanish) ran ads for a total of 13 weeks. The District does not have a count of the spots, because media buyers do not use such counts to analyze radio. Staff estimates between 400 and 600 radio spots total for the duration of the campaign.

Transit: The District used transit bus back signs to advertise throughout most of the District's service area. The total number was 10 large, or fullback, signs, and 85 smaller, or taillight, signs.

Newspaper: The District ran nine weeks of ads in the Mercury News in four sections of the paper, totaling between 30 and 40 ads. Additional ads in community papers totaled about 30, including Spanish and Vietnamese-language papers.

Bill inserts: Bill inserts were also utilized by District retailers, but the exact numbers are not available.

In July, 2000, District began promoting the residential survey and residential clothes washer program. This program was promoted on Spanish and English television and radio, bill inserts, and newspaper ads (English and Vietnamese).

In FY 2001-02, the media campaign included 93 newspaper ads, 2,230 radio ads, 912 TV ads, and 85 bus ads.

- *Number of paid or public service announcements relating to conservation produced or sponsored during reporting period*

  See "Number of media events relating to conservation" section, above.

- *Types of information relating to conservation provided to customers.*

  Various educational materials as well as program brochures are handed out each year. Educational materials include various *Sunset Magazine* article reprints, a *How to Water Your Lawn* brochure, a pamphlet on selecting the proper irrigation controller, and a pamphlet on the proper use of drip irrigation.

- *Budget for public information programs directly related to conservation.*

  The budget for public outreach programs related to water conservation was approximately $260,000 in fiscal year 2001-02.

8. School Education Programs

This BMP requires water suppliers to implement a school education program that includes providing educational materials and instructional assistance. In 1994 the District's Public Information Office hired a full-time, fully credentialed educator who holds life-time teaching and Administrative Services credentials to coordinate the school education programs. This included developing school programs, contracting with the Youth Science Institute for additional instructors, and supervising university student interns as classroom assistants.

The District has been continuously active in this area by providing free classroom presentations, puppet plays, and tours of District facilities to schools within the county. The objective is to teach students about water conservation, water supply, watershed stewardship and flood protection. The District also provides school curricula to area educators, including workbooks and videos, as well as hands-on training for teachers. The goal of the program this year is to reach 14,000 students, ranging from pre-kindergarten through college.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Number of school presentations made during reporting period.*

  651 class presentations were given.

- *Number and type of curriculum materials developed and/or provided by water supplier, including confirmation that curriculum materials meet state education framework requirements and are grade-level appropriate.*

  Materials distributed to students included *Water Colors* to students in grades Kindergarten and first, *Water Junction & Journal* to students in grades two and three, *Rain to Drain* to students in grades four through six, and *Project Water Science* to students in grades seven through twelve. All meet state education framework requirements and are grade-level appropriate. Staff does not have a breakdown of how many of each book was distributed, however all students who participated in the program received materials (~14,000 students).

- *Number of students reached.*

  Approximately 14,000 students were reached.

- *Number of in-service presentations or teacher's workshops conducted during reporting period.*

  20 teacher in-service workshops during the 2001-02 school year.

- *Budget for school education programs related to conservation.*

  The education budget for the 2001-02 school year was $175,000.

9. Conservation Programs for Commercial, Industrial and Institutional Accounts

The District's largest retailer, San Jose Water Company, has been offering commercial water-use surveys since 1994. Since 1994, they have completed 470 surveys.

Water Efficient Technologies Program (WET)

To encourage all commercial and industrial businesses to implement permanent water reduction measures, the City of San Jose offers financial awards to businesses in San Jose, offering $4 for every 100 cubic feet (CCF) conserved. Rebates range from $400 to $50,000 per site. Since 1997, the District and the City of San Jose have entered a cost-sharing agreement to jointly fund this program. Additionally, the District has recently expanded this program countywide. To date, the District has reimbursed the City of San Jose $390,000 for 41 projects saving approximately 417,000 CCFs per year.

Commercial Toilet Program

Over 3,700 toilets have been replaced by the District in commercial, industrial and institutional (CII) sites since 1992 (a rebate program was offered from 1992-1999 then the District switched to a direct installation program). Additionally, the District reimbursed the City of San Jose for toilets replaced through their CII ULFT programs — approximately 3,800 toilets between 1997 and 2002.

In FY2001/02, the District replaced 634 toilets in restaurants, gas stations, and wholesale/retail establishments and cost-shared on 257 installed through the City of San Jose's program.

Commercial Washer Program

In July 1999, the District, Silicon Valley Power (which supplies electricity to customers within the City of Santa Clara), and the City of San Jose (which administers Santa Clara/San Jose Water Pollution Control Plant) began offering $350 rebates for the replacement of high-efficiency clothes washers in Laundromats. Between July 1999 and July 2002, 829 clothes washers were replaced.

Beginning in July 2000, the commercial washer program was expanded throughout the county. Cost-sharing partners now include PG&E, Silicon Valley Power, Palo Alto and San Jose. The program also now includes commercial machines installed in multi-family complexes. Customers are eligible to receive up to $450 per qualifying machine.

In FY2001/02, the District issued 535 rebates.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *The number of customers and amount of water use within the CII customer classes.*

  Although the District collects and analyzes water use patterns using retailer use by class data, each of the retailers in the county use different classification breakdowns making compilation or analysis difficult. Most of the District's retailers do not have a separate classification for Institutional, Industrial, and Commercial Customers. Often times, commercial accounts are grouped with large multi-family accounts. Only two of the District's thirteen retailers identify their CII customers by SIC (Standard Industrial Classifications) codes.

  Consequently, detailed breakdowns of water use within the District by CII classes are not available. The District is looking into other ways to obtain SIC codes and has obtained lists of hotels, restaurants, gas stations, and other commercial sites by contacting county agencies that regulate these facilities. The District will work with its water retailers through the Water Conservation Monitoring and Evaluation Program to develop reporting methods that are clear and uniform for all retailers by the next plan update. Additionally, the District will reference each of the retailer's updated Urban Water Management Plans (2005) to possibly obtain this information. Once the District has this information it will be able to report on how it's doing in terms of meeting the goals of this BMP.

- *Number of CII customers offered a survey*

  During fiscal year 1996-97, the District implemented a regional pilot program that provided 24 water-use surveys for large water-using businesses and industries in the county. The District's largest retailer, San Jose Water Company, has been offering commercial water-use surveys since 1994.

- *Number of CII surveys completed*

  According to the District's consultant, ERI, the acceptance rate for the District's 24 CII audits was above 80 percent. Since 1994, San Jose Water Company has completed 470 surveys.

- *Number of follow-up audits completed this year*

  Future programs will include a program evaluation.

- *The type and number of water saving recommendations implemented.*

  Through a cost-share arrangement with the City of San Jose's Water Efficient Technologies Program (WET), the District has contributed to the 417,000 CCF annual savings—this is a culmination of annual savings since 1991. The industrial program implements a variety of industrial process retrofits.

  The Commercial Washer Rebate Pilot (FY1999-2000) has provided 408 CCF in annual savings. The extension of this pilot as a countywide program has resulted in an additional 829 washers replaced, resulting in an additional 30,300 CCF in annual savings.

- *Incentive program budget and customer outlays.*

  For the industrial retrofit programs (WET), customers are reimbursed $4 per each CCF proved in savings. During FY 2001-02 the District's portion was $82,000. Since the start of the program, the average total project cost was $108,000 while the average rebate was approximately $12,000.

  For the Commercial Washer Rebate Program, customers pay on average $1,200 per machine. Through an Americans with Disabilities Act (ADA) Tax credit available for most qualifying washers, customers receive a cost reduction of $563. The District provided up to a $450 rebate per machine; $100 of that was provided by the City of Santa Clara, $100 by the City of Palo Alto, and $125 of that was contributed by the City of San Jose.

10. Wholesale Agency Assistance Programs

This BMP defines a wholesaler's support role in terms of financial, technical, and programmatic assistance to its retail agencies implementing BMPs. The District continues to provide a high level of support and enjoys the special cooperative partnership with the water retailers in the regional implementation of the BMPs. District and water retailer staff has begun discussions on the wholesaler and retailer relationship, especially in light of a possible certification and enforcement process coming from CALFED.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *The total monetary amount of financial incentives and equivalent resources provided to retail members to assist, or to otherwise support, the implementation BMPs, subtotaled by BMP*

  The District has established a cooperative relationship with retailers in lieu of monetary incentives. Retailers are provided the resources of District Water Use Efficiency Unit to run all of the MOU BMPs. See each individual BMP section in this report for the programs that the District has in place.

- *The total amount of verified water savings achieved by each wholesaler-assisted BMP***.**

  See each individual BMP section in this report for the water savings related to that BMP.

11. Conservation Pricing

The District fulfills this BMP by metering and billing by volume of use for all water deliveries to its retail agencies. As discussed in Section 1G (Water Rate Schedules and Billing), the District has limited authority to set or enforce consumption limits at the retail level. However, the District has worked with water and wastewater agencies to discourage non-conservation pricing and to promote conservation pricing, which provides incentive for customers to decrease their water usage. Conservation pricing methods include uniform water rates and increasing block rates, which increase along with the quantity of water used.

District support has also included testimony before the PUC and funding for the CUWCC rate guidebook project. The water retailers utilize water rate structures that conform to conservation pricing definitions as outlined in the MOU.

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Report revenue generated by customer class for the reporting period.*

  Detailed financial data for the District is available in the *Water Utility Enterprise Report*.

- *Report revenue derived from commodity charges by customer class for the reporting period*

  The District fulfills this BMP by metering and billing by volume of use for all water deliveries to its retail agencies. The District has limited authority to set or enforce consumption limits at the retail level. Total revenue from volumetric rates in FY2001/02 was $94,071,487 (includes both retail sales as well as groundwater pumping charges).

- *Report rate structure by customer class for water service and sewer service if provided*

  Detailed information on water rates is included in Section 1G of this report.

12. Conservation Coordinator

The District is implementing this BMP in accordance with the MOU by having established the position of Water Conservation Coordinator in 1990.

The position of Water Use Efficiency Unit Manager is the District's Water Conservation Coordinator:

Name:	Hossein Ashktorab	Title:	Water Use Efficiency Unit Manager
Address:	5750 Almaden Expressway		San Jose CA 95120
Phone:	(408) 265-2607 x2291	Fax:	(408) 979-5639
E-mail:	hashktorab@valleywater.org		

The Santa Clara Valley Water District will collect and submit the following information in the CUWCC Reports:

- *Conservation Coordinator name, staff position, and years on job*

  Name: Hossein Ashktorab
  Staff Position: Water Use Efficiency Unit Manager
  Years on the Job: 1.5 years

- *Number of Conservation Coordinator staff*

  There are five full time staff members that report to the Water Conservation Coordinator, as well as four to six interns (number varies depending on season and program need).

- *Duties of Conservation Coordinator and staff*

  Duties are to implement the BMPs as documented in this report. See "Budget and Staff Time Summary," following this section, for a detailed breakdown of staff efforts.

13. Water Waste Prohibition

As discussed in Section 1H, the District has limited authority to impose mandatory provisions restricting the wasteful use of water. As a wholesale water supplier, the District fulfills this BMP by developing a set of model water use restrictions in 1989 and 1993 to assist the water retailers and cities in the development of their water waste prohibitions. The District works closely with the cities and retailers to encourage adoption and enforcement of the model Water Waste Ordinance. Such restrictions, along with public outreach and education efforts, helped the county reach a water use reduction of over 25 percent in 1991. Water savings continued despite the end of the drought.

In addition, the District Act (Section 26.7) allows the District to develop overproduction charges for groundwater pumping. This provision allows the District the flexibility to provide any necessary incentive required to achieve cooperation on the part of local retail water suppliers.

§ 26.7. Levy and collection of groundwater charges; rates; new or adjusted charges, reports; notice; hearing; errors

> *(C) The rate or rates, as applied to operators who produce groundwater above a specified annual amount, may, except in the case of any person extracting groundwater in compliance with a government-ordered program of cleanup of hazardous waste contamination, be subject to prescribed, fixed, and uniform increases in proportion to increases by that operator in groundwater production over the production of that operator for a prior base period to be specified by the board, upon a finding by the board that conditions of drought and water shortage require the increases. The increases shall be related directly to the reduction in the affected zone groundwater levels in the same base period.*

14. Residential Ultra Low Flow Toilet Replacement Programs

This BMP calls for the implementation of programs for replacing existing high water using toilets with ULFTs in single-family and multi-family residences. The program must result in water savings equivalent to having an ordinance requiring toilet replacement at time of home resale. From 1992 through June 2002, the Water Conservation Program, in conjunction with each of the thirteen participating retailers and through a series of cost-sharing agreements with the City of San Jose, has provided incentives for the retrofit of approximately 233,000 residential toilets. These retrofits are estimated to have achieved a demand reduction of 6,473 acre-feet per year. The District has met approximately 93 percent of the BMP cumulative water savings target to date (as of FY2001/02). The deficit is attributable to the inability to meet annual targets in the first three years of the program. The District has exceeded its annual targets in each of the past six years, closing the gap on the cumulative target from 37 percent compliance to 93 percent compliance. Table 4E (following section) provides the data used by the District to calculate its BMP target. Table 4F details the District's progress in implementing BMP #14.

From 1992 through 1999, the District offered rebates to residential customers who replaced their old toilets with ULFTs. The original rebate level was $75. However, due to declining program participation, the District ran three-month special offers in 1998 and 1999 during which time the rebate was increased to $100. These special offers were accompanied by major marketing campaigns in which the program was promoted through television, radio, newspaper, bill inserts, bus advertising, direct mailings, and public events.

The District ended its rebate program in 1999 and shifted the focus of its Residential ULFT Program towards program elements that are more targeted than a mass-rebate program. The District launched two new program elements in 2000: full-service installations targeted to large multi-family property owners and ULFT distribution events targeted to single-family residents. The estimated net cost (after cost-sharing) to the District for these programs was approximately $85 to $90 per toilet for multi-family properties and $95 to $100 per ULFT for single-family residents. In 2001, the District again switched its focus, this time from a ULFT distribution program for single-family residents to a full installation program for elderly, disabled and low-income single-family residents (the multi-family program remained unchanged).

In FY2001/02, the District replaced 10,104 toilets in single-family homes and 2,673 toilets in multi-family dwellings.   Also in FY2001/02, the District cost-shared with the City of San Jose for them to install 7,517 single-family toilets and 1,841 multi-family toilets.

Table 4E
Santa Clara Valley Water District
Calculation of BMP #14 Savings Requirement

Step One: Determine Local Adjustment Factors

Exhibit 6 requires the following information in order to estimate local per household water savings from ULFT installations:

1) Average number of people per household (single family and multi family)
2) Average number of toilets per household (single family and multi family)
3) Mix of pre-1980 and post-1980 toilets (single family and multi-family)

Data for the Santa Clara Valley Water District is listed below:
*(*SCCCUA = Santa Clara County Center for Urban Analysis)*

Total SF housing units as of 1992: 353,657
(Source: CA Dept. of Finance)

Pre-1980 SF housing units: 293,412[1]
Post-1980 SF housing units: 60,245[1]

Total MF housing units as of 1992: 194,227
(Source: CA Dept. of Finance)

Pre-1980 MF housing units: 161,140[1]
Post-1980 MF housing units: 33,087[1]

SF people per household: 3.3[2]
MF people per household: 2.4[3]

SF toilets per household: 2.2
(Source: Santa Clara County Center for Urban Analysis)

MF toilets per household: 1.3
(Source: SCCCUA)

Non-adjusted SF ULFT savings per household: 43.8 gpd
(Source: CUWCCC Exhibit 6, Table 1)

Non-adjusted MF ULFT savings per household: 48.5 gpd
(Source: CUWCCC Exhibit 6, Table 2)

SF adjustment for Pre/Post 1980 mix: gpd/household = [(279,913 * 43.8 * 1.015) + (57,475 * 43.8 * 0.812)] / 337,388 = 42.9

MF adjustment for Pre/Post 1980 mix: gpd/household = [(153,623 * 48.5 * 1.0255) + (31,542 * 48.5 * 0.8205)] / 185,165 = 48.0

Reliability adjustments[4]: SF savings = 41.5 gpd/household; MF savings = 46.5 gpd/household

Table 4E (continued)
Santa Clara Valley Water District
Calculation of BMP #14 Savings Requirement

Step Two: Estimate Water Savings from a Hypothetical Retrofit Upon Resale Ordinance

Once per household toilet savings have been established, an agency's savings target can be determined by estimating the impact of a hypothetical retrofit upon resale ordinance. This impact can be measured by determining housing turnover rates and the natural toilet replacement rate. The data used in the analysis is listed below:

Single family housing turnover rate: *(San Jose Real Estate Board & Santa Clara County Center for Urban Analysis)*	4.0%
Multi family housing turnover rate: (*San Jose Real Estate Board & Santa Clara County Center for Urban Analysis)*	7.0%
Natural toilet replacement rate: *(Source: CUWCCC, Exhibit 6)*	4.0%

Based on this data, spreadsheets were set up to project ULFT installations over time under two scenarios: 1) natural replacement only; and 2) natural replacement combined with retrofit upon resale. The difference in savings between Scenario 2 and Scenario 1 is the net effect of the hypothetical ordinance. The spreadsheets containing this analysis were used to develop Table 4F.

---

[1] *Source: ABAG Projections 90. This source provided data on total households in the region in 1980. Individual tallies of SF and MF households in 1980 were not available, so estimates were derived by assuming the ratio of SF to MF households was the same in 1980 as it was in 1992.*

[2] *Source: CA Dept. of Finance data details SF residential density of 3.112 in 1990. From 1990 to 1998, residential density for all households (SF and MF combined) increased from 2.813 to 2.998. This analysis assumes an equal proportional increase in densities between SF and MF housing between 1990 and 1998. This assumption does not significantly affect final savings estimates for SF housing, as the CUWCC planning tables do not provide for changes in savings levels for residential densities above 3.0.*

[3] *Source: CA Dept. of Finance data details MF residential density of 2.233 in 1990. See previous note for trend in residential densities from 1990 to 1998.*

[4] Exhibit 6 allows agencies to reduce savings estimates by 3.2% to increase statistical confidence from 50% to 90%.

Table 4F
Santa Clara Valley Water District
Implementation Status for BMP #14

Year	SFD ULFTs	SFD AF/YR Saved	MFD ULFTs	MFD AF/YR Saved	Annual Savings AF/YR /yr)	BMP Annual Target AF/YR	% of Annual Target Met	Cumulative Savings AF/YR	BMP Cumulative Target AF/YR	% of Cumulative Target Met
92/93	2,073	44	7,936	318	362	1,285	28%	362	1,285	28%
93/94	5,802	123	3,669	147	270	1,114	24%	631	2,399	26%
94/95	12,279	259	3,920	157	417	961	43%	1,048	3,360	31%
95/96	15,730	332	4,478	179	512	824	62%	1,560	4,184	37%
96/97	24,307	514	17,134	687	1,200	702	171%	2,760	4,886	56%
97/98	14,441	305	10,463	419	724	594	122%	3,484	5,480	64%
98/99	28,806	609	18,367	736	1,345	497	271%	4,829	5,977	81%
99/00	18,084	382	7,875	316	698	412	169%	5,526	6,389	86%
00/01	11,231	237	3,906	157	394	335	118%	5,920	6,724	88%
01/02	17621	372	4,514	181	553	268	206%	6,473	6,992	93%
Totals	150,374		82,262							

Table 4G(1): Budget and Staff Time Summary for FY2003/04

BMP*	Programs	Est. Budget	Est. Staff time**
1	Residential Water Audits, Residential Weather-Based Controllers	$560,000	0.5 FTE
2	Residential Retrofit	$20,000	0.1 FTE
3	System Water Audit & Leak Detection	(Operations budget)	(Operations staff)
4	Metering w/ Commodity Rate	($0-Fully metered)	N/A
5	Landscape Water Audits/Budgets, Weather-Based Irrigation Controllers, Dedicated Landscape Meters, Landscape Rebates, Irrigation Retrofits	$900,000	1.0 FTE
6	Washing Machine Rebates	$600,000	0.5 FTE
7	Public Information	$456,000	0.5 FTE
8	School Education Program	$166,000	2.0 FTE
9	CII Conservation Programs: High Efficiency Washing Machines, High Efficiency Toilets, Pre-Rinse Spray Valves, Innovative CII Retrofits	$1,600,000	1.0 FTE
10	Wholesale Agency Programs	(Entire program)	N/A
11	Conservation Pricing	N/A	N/A
12	Conservation Coordinator	N/A	1.0 FTE
13	Water Waste Prohibition	N/A	N/A
14	High Efficiency Toilet Programs	$275,000	0.3 FTE
	TOTAL	**~$4,577,000**	**~7 FTE**

*Some programs listed are above and beyond the requirements of the BMP.
**Additional to full-time employees, the District also relies upon four to six interns to assist with programs.

Table 4G(2): Budget and Staff Time Summary for FY2004/05

BMP*	Programs	Est. Budget	Est. Staff time**
1	Residential Water Audits, Residential Weather-Based Controllers	$640,000	0.5 FTE
2	Residential Retrofit	$20,000	0.1 FTE
3	System Water Audit & Leak Detection	(Operations budget)	(Operations staff)
4	Metering w/ Commodity Rate	($0-Fully metered)	N/A
5	Landscape Water Audits/Budgets, Weather-Based Irrigation Controllers, Dedicated Landscape Meters, Landscape Rebates, Irrigation Retrofits	$1,000,000	1.0 FTE
6	Washing Machine Rebates	$1,000,000	0.5 FTE
7	Public Information	$448,000	0.5 FTE
8	School Education Program	$166,000	2.0 FTE
9	CII Conservation Programs: High Efficiency Washing Machines, High Efficiency Toilets, Innovative CII Retrofits, CII Surveys	$1,150,000	1.0 FTE
10	Wholesale Agency Programs	(Entire program)	N/A
11	Conservation Pricing	N/A	N/A
12	Conservation Coordinator	N/A	1.0 FTE
13	Water Waste Prohibition	N/A	N/A
14	High Efficiency Toilet Programs	$150,000	0.2 FTE
	TOTAL	**~$4,574,000**	**~7 FTE**

*Some programs listed are above and beyond the requirements of the BMP.
**Additional to full-time employees, the District also relies upon four to six interns to assist with programs.

Table 4G(3): Budget and Staff Time Summary for FY2005/06

BMP*	Programs	Est. Budget	Est. Staff time**
1	Residential Water Audits, Residential Weather-Based Controllers	$640,000	0.5 FTE
2	Residential Retrofit	$20,000	0.1 FTE
3	System Water Audit & Leak Detection	(Operations budget)	(Operations staff)
4	Metering w/ Commodity Rate	($0-Fully metered)	N/A
5	Landscape Water Audits/Budgets, Weather-Based Irrigation Controllers, Dedicated Landscape Meters, Landscape Rebates, Irrigation Retrofits	$1,100,000	1.0 FTE
6	Washing Machine Rebates	$1,000,000	0.6 FTE
7	Public Information	$450,000	0.5 FTE
8	School Education Program	$166,000	2.0 FTE
9	CII Conservation Programs: High Efficiency Washing Machines, High Efficiency Toilets, Innovative CII Retrofits, CII Surveys	$1,200,000	1.0 FTE
10	Wholesale Agency Programs	(Entire program)	N/A
11	Conservation Pricing	N/A	N/A
12	Conservation Coordinator	N/A	1.0 FTE
13	Water Waste Prohibition	N/A	N/A
14	High Efficiency Toilet Programs	$150,000	0.2 FTE
	TOTAL	**~$4,726,000**	**~7 FTE**

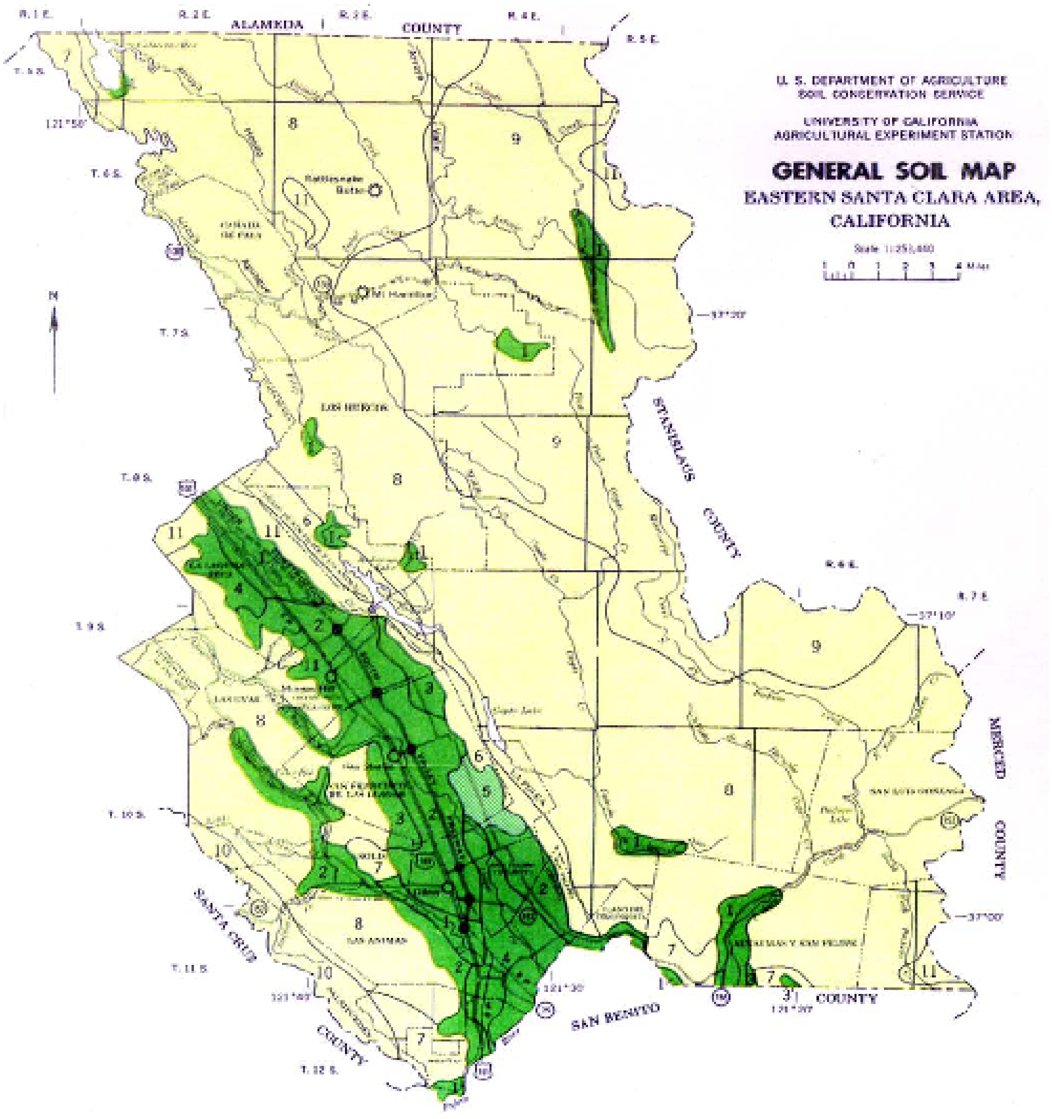
*Some programs listed are above and beyond the requirements of the BMP.
**Additional to full-time employees, the District also relies upon four to six interns to assist with programs.

Appendix A

Soil Map

Eastern Santa Clara

Appendix A



SOIL ASSOCIATIONS *

AREAS DOMINATED BY VERY DEEP, WELL-DRAINED TO POORLY DRAINED SOILS ON ALLUVIAL PLAINS, FANS, AND STREAM BENCHES

1	Yolo association: Nearly level to sloping, well-drained loams and silty clay loams; on alluvial plains and fans
2	Arbuckle-Pleasanton association: Nearly level to strongly sloping, well-drained gravelly loams and loams; on older alluvial fans
3	Cropley-Rincon association: Nearly level to sloping, well-drained clays and clay loams; on alluvial fans
4	Clear Lake-Pacheco-Sunnyvale association: Nearly level, poorly drained clays to clay loams; in low positions on alluvial plains and fans

AREAS DOMINATED BY SHALLOW TO MODERATELY DEEP, WELL DRAINED TO MODERATELY WELL DRAINED SOILS ON OLD FANS AND TERRACES

5	Hillgate-San Ysidro association: Nearly level to steep, well drained to moderately well drained silt loams and loams having a clay and clay loam subsoil

AREAS DOMINATED BY SHALLOW TO DEEP, WELL-DRAINED TO SOMEWHAT EXCESSIVELY DRAINED SOILS ON UPLANDS

6	Azule-Altamont association: Strongly sloping to very steep, well-drained, moderately deep and deep clays and clay loams
7	Los Osos-San Benito association: Moderately steep to very steep, well-drained, moderately deep and deep clay loams
8	Los Gatos-Gaviota-Vallecitos association: Gently sloping to very steep, well-drained and somewhat excessively drained, shallow to deep gravelly loams and loams
9	Gaviota association: Steep to very steep, shallow, somewhat excessively drained, eroded gravelly loams
10	Felton-Maymen association: Moderately steep to very steep, well-drained and somewhat excessively drained, deep to shallow silt loams and fine sandy loams
11	Montara-Inks-Henneke association: Moderately steep to very steep, somewhat excessively drained, shallow clay loams and gravelly clay loams

* Texture in descriptive name refers to that of surface layer unless otherwise stated.

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

Compiled 1972

Appendix B

District Act- Excerpt of Sections Relative to Groundwater Charge: revised 7/1/96

&

The Rules and Regulations for the Service of Surface Water, 7/1/74

Appendix B

DISTRICT ACT

Chapter 1405 of the Statutes of 1951, Section 26

EXCERPT OF SECTIONS RELATIVE TO GROUNDWATER CHARGE

REVISED 7/1/96

Santa Clara Valley
Water District
5750 Almaden Expressway
San Jose, CA 95118-3614
Phone (408) 265-2600

§ 26. Groundwater charge; power to levy and collect

Sec. 26. The board shall have the power, in addition to the powers enumerated elsewhere in this act, to levy and collect a groundwater charge for the production of water from the groundwater supplies within a zone or zones of the district which will benefit from the recharge of underground water supplies of the distribution of imported water in such zone or zones.

§ 26.1. Definitions relative to groundwater charge

Sec. 26.1. As used in connection with the groundwater charge, the following words shall mean:

"Person," "owner," or "operator" means public agencies, federal, state, and local, private corporations, firms, partnerships, limited liability companies, individuals or groups of individuals, whether legally organized or not; "owner" or "operator" also means the person to whom a water-producing facility is assessed by the county assessor, or, if not separately assessed, the person who owns the land upon which a water-producing facility is located.

"Groundwater" means nonsaline water beneath the natural surface of the ground, whether or not flowing through known and definite channels; "nonsaline water" means water which has less than 1,000 parts of chlorides to 1,000,000 parts of water, both quantities measured by weight.

"Production" or "producing" means the extraction or extracting of groundwater, by pumping or any other method, from shafts, tunnels, wells (including, but not limited to, abandoned oil wells), excavations or other sources of groundwater, for domestic, municipal, irrigation, industrial, or other beneficial use, except that the terms do not mean or include the extraction of groundwater produced in the construction or reconstruction of a well, or water incidentally produced with oil or gas in the production thereof, or water incidentally produced in a bona fide mining or excavating operation or water incidentally produced in the bona fide construction of a tunnel, unless the groundwater so extracted shall be used or sold by the producer for domestic, municipal, irrigation, industrial, or other beneficial purpose.

"Water-producing facility" means any device or method, mechanical or otherwise, for the production of water from the groundwater supplies within the district or a zone thereof.

"Water production statement" means the certified statement filed by the owner or operator of a water-producing facility with the district of the production of groundwater of the facility in a specified period.

"Water year" means July 1st of one calendar year to June 30th of the following calendar year.

"Agricultural water" means water primarily used in the commercial production of agricultural crops or livestock.

§ 26.2. Groundwater charge zones; establishment; amendment

Sec. 26.2. Prior to the establishment of any groundwater charge, the board shall establish a zone or zones within the district within which the groundwater charge will be effective. Said zone or zones shall be established and may be amended to the extent and in the manner prescribed in Section 3 of this act.

§ 26.3. Purpose of groundwater charges; use of revenues

Sec. 26.3. Groundwater charges levied pursuant to this act are declared to be in furtherance of district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare and safety of the people of this State. The groundwater charges are authorized to be levied upon the production of groundwater from all water-producing facilities, whether public or private, within said zone or zones of the district for the benefit of all who rely directly or indirectly upon the groundwater supplies of such zone or zones and water imported into such zone or zones.

The proceeds of groundwater charges levied and collected upon the production of water from groundwater supplies within such zone or zones of the district are authorized and shall be used exclusively by the board for the following purposes:

1. To pay the costs of constructing, maintaining and operating facilities which will import water into the district which will benefit such zone or zones, including payments made under any contract between the district and the State of California, the United States of America, or any public, private or municipal utility.
2. To pay the costs of purchasing water for importation into such zone or zones, including payments made under contract to the State of California, the United States of America, or any public, private or municipal utility.
3. To pay the costs of constructing, maintaining and operating facilities which will conserve or distribute water within such zone or zones, including facilities for groundwater recharge, surface distribution, and the purification and treatment of such water.
4. To pay the principal or interest of any bonded indebtedness or other obligations incurred by the district on behalf of such zone or zones for any of the purposes set forth in paragraphs 1, 2, and 3 of this section.

The district may apply to any one or more of the purposes set forth in paragraphs 1, 2, 3, and 4 of this section any or all revenues received by the district from water sale contracts executed by the district pursuant to this act.

§ 26.4. Registration of water-producing facilities; violation; penalty

Sec. 26.4. Within six months after the date of establishing any such zone or zones, all water-producing facilities located within the boundaries of such zone or zones shall be registered with the district and, if required by the board, measured with a water-measuring device satisfactory to the district installed by the district or at the district's option by the operator thereof. Any new water-producing facility, constructed or reestablished, or any abandoned water-producing facility which is reactivated, after such date, shall be registered with the district and, if required by the board, measured with a water-measuring device satisfactory to the district within 30 days after the completion or reestablishment, or reactivation thereof.

Failure to register any water-producing facility, as required by this act, is a misdemeanor punishable by a fine of not to exceed five hundred dollars ($500), or imprisonment in the county jail for not to exceed six months, or by both such fine and imprisonment.

In addition to other information which the district may determine is necessary and may require in the registration form provided, there shall also be given information as to the owner or owners of the land upon which each water-producing facility is located, a general description and location of each water-producing facility, the name and address of the person charged with the operation of each water-producing facility, and the name or names and addresses of all persons owning or claiming to own an interest in the water-producing facility.

§ 26.5. Annual report on district's activities; contents

Sec. 26.5. (a) The district shall annually prepare a written report upon the district's activities in the protection and augmentation of the water supplies of the district. The report shall include, among other information the board may order, a financial analysis of the district's water utility system; information as to the present and future water requirements of the district, the water supply available to the district, and future capital improvement and maintenance and operating requirements; a method of financing those requirements; a recommendation as to whether or not a groundwater charge should be levied in any zone or zones of the district during the ensuing water year and, if any groundwater charge is recommended, a proposal of a rate or rates per acre-foot for agricultural water and a rate or rates per acre-foot for all water other than agricultural water for the zone or zones, which rate or rates, as applied to operators who produce groundwater above a specified annual amount, may be subject to prescribed, fixed, and uniform increases in proportion to increases by that operator in groundwater production over the production of that operator for a prior base period to be specified by the board.

(b) The report shall not contain a recommendation of any increases in proportion to increased production in a zone unless based upon an analysis showing the cause of the reduction in the groundwater levels of the zone requiring the increases, with attention given to the effect of extractions of pumpers outside of, as well as within the zone, and with an evaluation of alternative measures which may feasibly be taken within the entire affected groundwater basin and of any alternative supplies of water available for that zone, including the availability of treated water supplied by the district or treated groundwaters or groundwaters extracted in a cleanup operation and available to the district for reuse. The report shall be consistent with any conservation and reuse plan approved by the State Water Resources Control Board. The report shall also include all of the following:

(1) The amount of groundwater produced in the proposed zone and alternative water sources.

(2) The estimated costs of recharging each zone or zones.

(3) The estimated costs of mitigating any effects of pumping.

(4) Information specifying the benefits that have been received and will be received within the zone or zones where a groundwater charge has been levied and collected, or is recommended to be levied and collected.

§ 26.6. Hearing on report; notice

Sec. 26.6. On or before the first Tuesday in April of each year the report shall be delivered to the clerk of the district board in writing. The clerk shall publish, pursuant to Section 6061 of the Government Code, a notice of the receipt of the report and of the public hearing to be held on or before the fourth Tuesday in April in a newspaper of general circulation printed and published within the district, at least 10 days prior to the date at which the public hearing regarding the report shall be held. The notice, among other information which the district may provide, shall contain an invitation to all operators of water-producing facilities within the district and to any person interested in the district's activities in the protection and augmentation of the water supplies of the district to call at the offices of the district to examine the report. There shall be held on or before the fourth Tuesday of April of each year, in the chambers of the board, a public hearing at which time any operator of a water-producing facility within the district, or any person interested in the district's activities in the protection and augmentation of the water supplies of the district, may in person, or by representative, appear and submit evidence concerning the subject of the written report.

§ 26.7. Levy and collection of groundwater charges; rates; new or adjusted charges; reports; notice; hearing; errors

Sec. 26.7. (a) (1) Prior to the end of the water year in which the hearing is held, and based upon the findings and determinations from the hearing, the board shall determine whether or not a groundwater charge should be levied in any zone or zones.

(2) If the board determines that a groundwater charge should be levied, it shall levy, assess, and affix the charge or charges against all persons operating groundwater-producing facilities within the zone or zones during the ensuing water year.

(3) (A) The charge shall be computed at a fixed and uniform rate or rates per acre-foot for agricultural water, and at a fixed and uniform rate or rates per acre-foot for all water other than agricultural water.

(B) Different rates may be established in different zones, except that in each zone the rate or rates for agricultural water shall be fixed and uniform, and the rate or rates for water other than agricultural water shall be fixed and uniform.

(C) The rate or rates, as applied to operators who produce groundwater above a specified annual amount, may, except in the case of any person extracting groundwater in compliance with a government-ordered program of cleanup of hazardous waste contamination, be subject to prescribed, fixed, and uniform increases in proportion to increases by that operator in groundwater production over the production of that operator for a prior base period to be specified by the board, upon a finding by the board that conditions of drought and water shortage require the increases. The increases shall be related directly to the reduction in the affected zone groundwater levels in the same base period.

(D) The rates shall be established each year in accordance with a budget for that year submitted by the district to the Board of Supervisors of Santa Clara County pursuant to this act, or amendments or adjustments to that budget, and shall be fixed and uniform rates for agricultural water and for all water other than agricultural water, respectively, except that each such rate for agricultural water shall not exceed one-fourth of the rate for all water other than agricultural water.

(b) (1) The board may also impose or adjust any groundwater charge, and the rate of any charge, on or before January 1 of each water year or at any time during the 1992-93 water year whenever the board determines that the imposition or adjustment of the charge is necessary.

(2) The board shall prepare a supplemental report to the annual report prepared pursuant to Section 26.5, explaining the reasons for the imposition or adjustment of the charge. The board shall file the supplemental report with the clerk of the board at least 45 days before the date the new or adjusted charge is proposed to take effect.

(3) (A) The clerk shall publish in a newspaper of general circulation published within the district, pursuant to Section 6061 of the Government Code, a notice of the receipt of the supplemental report and a hearing to be held on the proposed imposition or adjustment of the groundwater charge at least 31 days before the date on which the new or adjusted charge is proposed to take effect and at least 10 days before the date of the hearing.

(B) The notice shall invite any operator of a water-producing facility within the district and other interested parties to examine the supplemental report prepared pursuant to paragraph (2) at the district office.

(4) (A) A public hearing shall be held at least 21 days before the date on which the new or adjusted groundwater charge is proposed to take effect in the chambers of the board.

(B) Any operator of a water-producing facility within the district may, in person or by means of a representative, present evidence at the hearing concerning the imposition or adjustment of the groundwater charge.

(c) Any groundwater charge levied pursuant to this section shall be in addition to any general tax or assessment levied within the district or any zone or zones thereof.

(d) Clerical errors occurring or appearing in the name of any person or in the description of the water-producing facility where the production of water therefrom is otherwise properly charged, or in the making or extension of any charge upon the records which do not affect the substantial rights of the assessee or assessees, shall not invalidate the groundwater charge.

§ 26.8. Notice to owners or operators

Sec. 26.8. The district, after the levying of the groundwater charge, shall give notice thereof to each owner or operator of each water-producing facility in the zone or zones as disclosed by the records of said district, which notice shall state the rate for each class of water of the groundwater charge for each acre-foot of water to be produced during the ensuing water year. Said notice may be sent by postal card or by other first-class mail and with postage prepaid by the district.

§ 26.9. Water production statement; computation of charges; interest and penalties

Sec. 26.9. (a) After the establishment of a zone in which a groundwater charge may be levied, each owner or operator of a water-producing facility within the zone, until the time that the water-producing facility has been permanently abandoned, shall file with the district, on or before the 30th day following the end of collection periods established by the board, a water production statement setting forth the total production in acre-feet of water for the preceding collection period, a general description or number locating each water-producing facility, the method or basis of the computation of the water production, and the amount of the groundwater charge based on the computation. The collection periods may be established at intervals of not more than one year or less than one month. If no water has been produced from the water-producing facility during a preceding collection period, this statement shall be filed as provided for in this section, setting forth that no water has been produced during the applicable period. The statement shall be verified by a written declaration under penalty of perjury.

(b) The groundwater charge is payable to the district on or before the last date upon which the water production statements shall be filed, and is computed by multiplying the production in acre-feet of water for each classification as disclosed in the statement by the groundwater charge for each classification of water. The owner or operator of a water-producing facility which is being permanently abandoned shall give written notice of the abandonment to the district. If any owner or operator of a water-producing facility fails to pay the groundwater charge when due, the district shall charge interest at the rate of 1 percent each month on the delinquent amount of the groundwater charge.

(c) If any owner or operator of a water-producing facility fails to register each water-producing facility, or fails to file the water production statements as required by this act, the district shall, in addition to charging interest, assess a penalty charge against the owner or operator in an amount of 10 percent of the amount found by said district to be due. The board may adopt regulations to provide that in excusable or justifiable circumstances the penalty may be reduced or waived.

(d) If any owner or operator of a water-producing facility fails to file a water production statement as required by this act, the district shall, in addition to charging interest and assessing a penalty charge, assess an administrative charge to recover the costs of collection. The board may adopt regulations to provide that in excusable or justifiable circumstances the administrative charge may be reduced or waived.

(e) If a water-measuring device is permanently attached to a water-producing facility, the record of production as disclosed by the water-measuring device shall be presumed to be accurate and shall be used as the basis for computing the water production of the water-producing facility in completing the water production statement, unless it can be shown that the water-measuring device is not measuring accurately.

(f) If a water-measuring device is not permanently attached to a water-producing facility, the board may establish a method or methods to be used in computing the amount of water produced from the water-producing facilities. The methods may be based upon any or all of the following criteria: the minimum charge sufficient to cover administrative costs of collection, size of water-producing facility discharge opening, area served by the water-producing facility, number of persons served by the water-producing facility, use of land served by the water-producing facility, crops grown on land served by the water-producing facility, or any other criteria or criteria which may be used to determine with reasonable accuracy the amount of water produced from that water-producing facility. The district may levy an annual charge upon a water-producing facility for which no production has been recorded but which has not been permanently abandoned if that charge does not exceed the annual cost to the district of maintaining and administering the registration of that facility.

§ 26.10. Amendment of statement; correction of records

Sec. 26.10. Upon good cause shown, an amended statement of water production may be filed or a correction of the records may be made at any time within six months of filing the water production statement; provided that if pursuant to Section 26.13, the owner or operator has been notified of a determination by the district that the production of water from the water-producing facility is in excess of that disclosed by the sworn statement covering such water-producing facility, and such owner or operator fails to protest such determination in the manner and in the time set forth in Section 26.13, the owner or operator shall be precluded from later filing an amended water production statement for that period for such water-producing facility.

§ 26.11. Record of water production and groundwater charges

Sec. 26.11. The district shall prepare each year a record called “The Record of Water Production and Groundwater Charges” in which shall be entered a general description of the property upon which each water-producing facility is located, an identifying number or code which is assigned to such facility, the annual water production for each class of water produced from each water-producing facility, and the groundwater charge for each class of water.

§ 26.12. Injunctive relief; grounds; process; procedure

Sec. 26.12. The superior court of the county in which the district lies may issue a temporary restraining order upon the filing by the district with said court of a petition or complaint setting forth that the person named therein as defendant is the operator of a water-producing facility which has not been registered with the district, or that such defendant is delinquent in the payment of a groundwater charge. Such temporary restraining order shall be returnable to said court on or before 10 days after its issuance.

The court may issue and grant an injunction restraining and prohibiting the named defendant from the operation of any water-producing facility when it is established at the hearing that the defendant has failed to register such water-producing facility with the district, or that the defendant is delinquent in payment of groundwater charges thereon. Such court may provide that the injunction so made and issued shall be stayed for a period not to exceed 10 days to permit the defendant to register the water-producing facility or to pay the delinquent groundwater charge.

Service of process is completed by posting a copy of the summons and complaint upon the water-producing facility or the parcel of land upon which it is located and by personal service upon the named defendant.

The right to proceed for injunctive relief granted herein is an additional right to those which may be provided elsewhere in this act or otherwise allowed by law. The procedure provided in Chapter 3 (commencing with Section 525), Title 7, Part 2, of the code of Civil Procedure, regarding injunctions shall be followed except insofar as it may herein be otherwise provided. The district shall not be required to provide an undertaking or bond as a condition to granting injunctive relief.

§ 26.13. Excess water production; investigation and report; fixing amount of production; protest

Sec. 26.13. If the district has probable cause to believe that the production of water from any water-producing facility is in excess of that disclosed by the sworn statements covering such water-producing facility, or if no statements are filed covering any water-producing facility, the district may cause an investigation and report to be made concerning the production of water from each such water-producing facility. The district may fix the amount of water production from any such water-producing facility at an amount not to exceed the maximum production capacity of such water-producing facility; provided, however, where a water-measuring device is permanently attached thereto, the record of production, as disclosed by such water-measuring device, shall be presumed to be accurate.

After such determination has been made by the district, a written notice thereof shall be mailed to the person operating such water-producing facilities at the address shown by the district's records. Any such determination made by the district shall be conclusive on all persons having an interest in such water-producing facility, and the groundwater charge, interest and penalties thereon, shall be paid forthwith, unless such person files with the board within 15 days after the mailing of such notice, a written protest setting forth the ground or grounds for protesting the amount of production so fixed. Upon the filing of such protest, the board thereafter shall hold a hearing at which time the total amount of the water production and the groundwater charge thereon shall be determined, which shall be conclusive if based upon substantial evidence. If the water production statement was filed and the amount disclosed thereon was paid within the time required by this act, and the board finds that the failure to report the amount of water actually produced resulted from excusable or justifiable circumstances, the board may waive the charge of interest on the amount found to be due. A notice of such hearing shall be mailed to the protestant at least 10 days before the date fixed for the hearing. Notice of the determination by the board shall be mailed to each protestant, who shall have 20 days from the date of mailing to pay the groundwater charge, interest or penalties provided by the provisions of this act.

Notice as required in this section shall be given by deposit thereof in any postal facility regularly maintained by the government of the United States in a sealed envelope with postage paid, addressed to the person on whom it is served at the name and address disclosed by the records of the district. The service is complete at the time of deposit.

§ 26.14. Collection of delinquent charges; interest and penalties; attachment

Sec. 26.14. The district may bring a suit in the court having jurisdiction against any operator of a water-producing facility within the district for the collection of any delinquent groundwater charge. The court having jurisdiction of said suit may, in addition to allowing recovery of costs to said district as allowed by law, fix and allow as part of the judgment interest and penalties as provided in Section 26.9. Should the district, as a provisional remedy in bringing such suit, seek an attachment against the property of any named defendant therein, the district shall not be required to provide a bond or undertaking as is otherwise provided for in the Code of Civil procedure of the State of California in Chapter 4 (commencing with Section 537), Title 7, Part 2, thereof.

§ 26.15. Production from unregistered facilities; violations; penalties

Sec. 26.15. It shall be unlawful to produce water from any water-producing facility required to be registered pursuant to the terms of this act unless such water-producing facility has been registered with the district within the time required by the provisions of this act and, if required by the board, has a water-measuring device affixed thereto capable of registering the accumulated amount of water produced therefrom.

Violation of this provision shall be punishable by a fine not to exceed five hundred dollars ($500), or imprisonment in the county jail for not to exceed six months, or by both such fine and imprisonment. Each day of operation in violation hereof shall constitute a separate offense.

§ 26.16. Interfering or tampering with measuring device; filing fraudulent statements

Sec. 26.16. Any person who injures, alters, removes, resets, adjusts, manipulates, obstructs or in any manner interferes or tampers with or procures or causes or directs any person to injure, alter, remove, reset, adjust, manipulate, obstruct or in any manner interfere or tamper with any water-measuring device affixed to any water-producing facility as required by this act, so as to cause said water-measuring device to improperly or inaccurately measure and record said water production, or any person who willfully does not file with the district a water production statement as prescribed and within the time required by this act, or any person who willfully removes or breaks a seal attached to an abandoned water-producing facility, or any person who with intent to evade any provision or requirement of this act files with the district any false or fraudulent water production statement is guilty of a misdemeanor and is punishable by a fine not to exceed five hundred dollars ($500), or imprisonment in the county jail not to exceed six months, or by both such fine and imprisonment.

9

§ 26.17. Enforcement powers

Sec. 26.17. In implementing the enforcement of the provisions of this act relating to groundwater charges, the district shall have the power, in addition to the powers enumerated elsewhere in this act:

1. To install and maintain water-measuring devices, and other devices which will aid in determining accurate water production, on water-producing facilities not owned by the district.
2. To affix seals to water-producing facilities which the owner or operator thereof has declared to be abandoned, or are in fact permanently abandoned.
3. To enter on to any land for the purposes enumerated in this section and for the purpose of making investigations relating to water production.

10

Santa Clara Valley
Water District

5750 Almaden Expwy
San Jose, CA 95118

Ordinance No. 70-1

ENACTING RULES AND REGULATIONS

GOVERNING THE RECORDING OF GROUND

WATER PRODUCTION WITHIN A ZONE OF

SANTA CLARA VALLEY WATER DISTRICT IN

WHICH A GROUND WATER EXTRACTION

CHARGE IS LEVIED. AS AMENDED 6/2/87

Rules and Regulations
Governing the Recording of
Ground Water Production

REVISED 7/1/87

The Board of Directors of Santa Clara Valley Water District do hereby enact as follows:

ARTICLE I

Ordinance W-2.2.1 of the District is hereby repealed.

ARTICLE II

The following Rules and Regulations Governing the Recording of Ground Water Production are hereby adopted and shall apply in any zone of Santa Clara Valley Water District in which a ground water extraction charge is levied.

Opening Statement

Under the provisions of the Santa Clara Valley Water District Act of the State of California, if this District elects to impose a ground water charge, it must base that charge upon the production of ground water in acre feet. The responsibility of the owner or operator of a pump or other ground water producing facility is to keep a record and to file a report of his production. The following rules and regulations are established to ensure that the ground water charge is equitably laid; that **ALL** production is reported with a maximum of accuracy and that consequently no one is unfairly burdened.

Sec. 1. RECORDS OF GROUND WATER PRODUCTION

Each owner or operator of a ground water producing facility shall keep a record of water produced from each such facility, and in preparing his semi-annual water production statement as required by Section 26.9 of said Act shall follow the instructions and worksheets to be supplied by the District in form as officially adopted from time to time by resolution of the Board.

Sec. 2. DETERMINATION OF UNMETERED GROUND WATER

In the case of a ground water producing facility to which no meter is attached, the record of production shall be determined by a method reasonably available to the owner or operator and most likely to be accurate. The acceptable methods of determining such production graded as to accuracy from highest to lowest are as follows:

(a) By use of an efficiency or flow test determining the rate of production of the facility together with a device which accurately records the duration of operation of the facility within the reporting period.

(b) By use of an efficiency or flow test determining the kilowatt hours of electrical power necessary to produce an acre foot or other quantity of water together with a device that accurately records the consumption of kilowatt hours within the reporting period.

(c) By reference to a record of total kilowatt hours consumed by the facility and/or booster pump for the reporting period together with total head (defined as including depth to water, a determination of the drawdown, sprinkler operating pressure and line loss or lift), by use of the following alternative formulae:

Where pump efficiency is known the formula shall be:

$$\frac{\text{head in feet} \times .00314}{\text{pump efficiency} \times \text{motor efficiency.}} = \text{kilowatt hours per 1,000 gallons produced}$$

Where pump efficiency is unknown a total efficiency of pump and motor of 40 percent is assumed and the formula shall be:

$$\frac{\text{Kilowatt hours} \times .391}{\text{total head}} = \text{total acre-feet of water produced}$$

(d) By reference to a crop factor, being the average of normal irrigation requirements per acre of the crop or crops irrigated by the facility in question, as shown in the current "Table of Water Factors" as adopted by resolution of the Board. In the case of a ground water producing facility producing water devoted in whole or in part to a domestic use, the domestic use portion of such production shall be determined by reference to a "Table of Average Uses" as adopted by resolution of the Board.

Sec. 3. ACQUISITION, INSTALLATION AND MAINTENANCE OF METERS BY OWNER OR OPERATOR

Each owner or operator of a ground water producing facility primarily producing (a) agricultural water or (b) water other than agricultural water in not less than amounts to be set for each said category by the Board of Directors for each fiscal year in which a ground water extraction charge is levied, shall acquire and install on each such facility a meter. The meter and its installation shall be satisfactory to the District. To be satisfactory such a meter shall be capable of recording to within approximately two percent of 100 percent accuracy. Where measurement of production cannot reasonably be determined without a meter the acquisition and installation of a satisfactory water meter or other appropriate device may be ordered in particular cases by the General Manager of the District without regard to the estimate of production hereinabove specified. Ground water producing facilities installed hereafter shall be installed equipped with meters if subject to this section; installation of meters upon existing facilities where required by this section shall be completed within thirty days of the effective date of this Ordinance or of receipt of a written direction by the General Manager so to do, subject, nevertheless to the provisions of Sec. 6 hereof. All meters or other devices used to base sworn statements of the production of a ground water producing facility shall be systematically and properly maintained by the owner or operator for accurate operation, failing which the record of production so disclosed shall have no presumption of accuracy and the

District may cause an investigation and report to be made concerning such water producing facility as provided by law, a copy of test records supplied with new meters and at times of overhaul and retest shall be supplied by the owner or operator to the District.

Sec. 4. ACQUISITION, INSTALLATION AND MAINTENANCE OF METERS BY DISTRICT

Notwithstanding the foregoing any owner or operator who is required to acquire, install and maintain a meter pursuant to this Ordinance by reason of installation of a ground water producing facility or a reactivation or a change of use of such a facility, may request the District to acquire, install and maintain such meter and to relocate piping or do other associated connection work. The request will be denied if the District determines that:

(a) The request was not made at a time long enough prior to installation or reactivation of a ground water producing facility to permit the acquisition of a meter and the installation thereof as part of the installation or reactivation of such facility, 30 days being deemed, in the absence of special circumstances, the minimum such period; or

(b) The provision of a meter is not economically justifiable and other acceptable means of measuring production exist or the facility is to be deactivated in the reasonably near future.

Where the District has determined that the request was not timely the District may, nevertheless, acquire and deliver and maintain a meter at its cost but may install the same (including any necessary additional piping) at the expense of the owner or operator. In such a case the owner or operator may accomplish the installation if the work is done under District supervision and to District approval.

Sec. 5. DISTRICT METER ON ABANDONED FACILITY

If the meter on any abandoned water-producing facility is owned by the District, the owner or operator of the water-producing facility shall, within 10 calendar days after said abandonment of such water-producing facility, notify the District in writing of the abandonment, and shall be responsible for and shall preserve such meter in a safe condition for 10 calendar days after written notice has been given to the District.

Sec. 6. APPLICATION FOR EXCEPTIONS

Upon the application of any owner or operator of a water-producing facility, stating fully the grounds of the application and all facts relied upon by the applicant, the Board of Directors of this District may authorize exceptions from the provisions of this Ordinance. In order for the application to come within this section it will be necessary for the applicant to show:

(a) That the determinations of the District which are the subject of the application are not reasonably accurate, or

(b) That there are special circumstances which make the application of this Ordinance unreasonable or unnecessary in relation to a particular water-producing facility or group of facilities; that the granting of the exception will not be detrimental to the orderly and economic collections of ground water charges; and that the granting of the exception will not be inconsistent with the intent of this Ordinance.

(c) That any application relating to metering of water-producing facilities primarily producing agricultural water has first been presented to and considered by the Agricultural Water Advisory Committee of this District, and that said Committee has made its recommendation thereon.

The Board of Directors of this District in granting any exception may attach conditions thereto, including, but not limited to, requirements that the owner or operator of any unmetered water-producing facility keep and supply the District with regularly kept records and logs of information regarding the facility, including depth of water, electrical power consumption, the result of any efficiency tests made, measurements of pump output, hours of operation, time of operation and other data pertinent to determination of production, in addition to the requirements of Sec. 1 hereof.

Sec. 7. VIOLATIONS A MISDEMEANOR

Any owner or operator violating any of the provisions of Sections 3 or 5 of this Ordinance shall be guilty of a misdemeanor and is punishable by a fine not exceeding $500 or by imprisonment in the County jail for a period of not to exceed 6 months or by both such fine and imprisonment.

Sec. 8. SEVERABILITY

Should any section or provision of this Ordinance be decided by a court of competent jurisdiction to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part decided to be unconstitutional or invalid.

PASSED AND ADOPTED by the Board of Directors of Santa Clara County Flood Control and Water District [now SANTA CLARA VALLEY WATER DISTRICT] this 13th day of January, 1970, by the following vote:

AYES: Directors J. Chiri, V. F. Corsiglia, M. E. Dullea, J. J. Lenihan, R. T. Sapp, R. J. Sturla, F. A. Wilcox

NOES: Directors NONE

ABSENT: Directors NONE

James Lenihan
Chairman of the Board of Directors

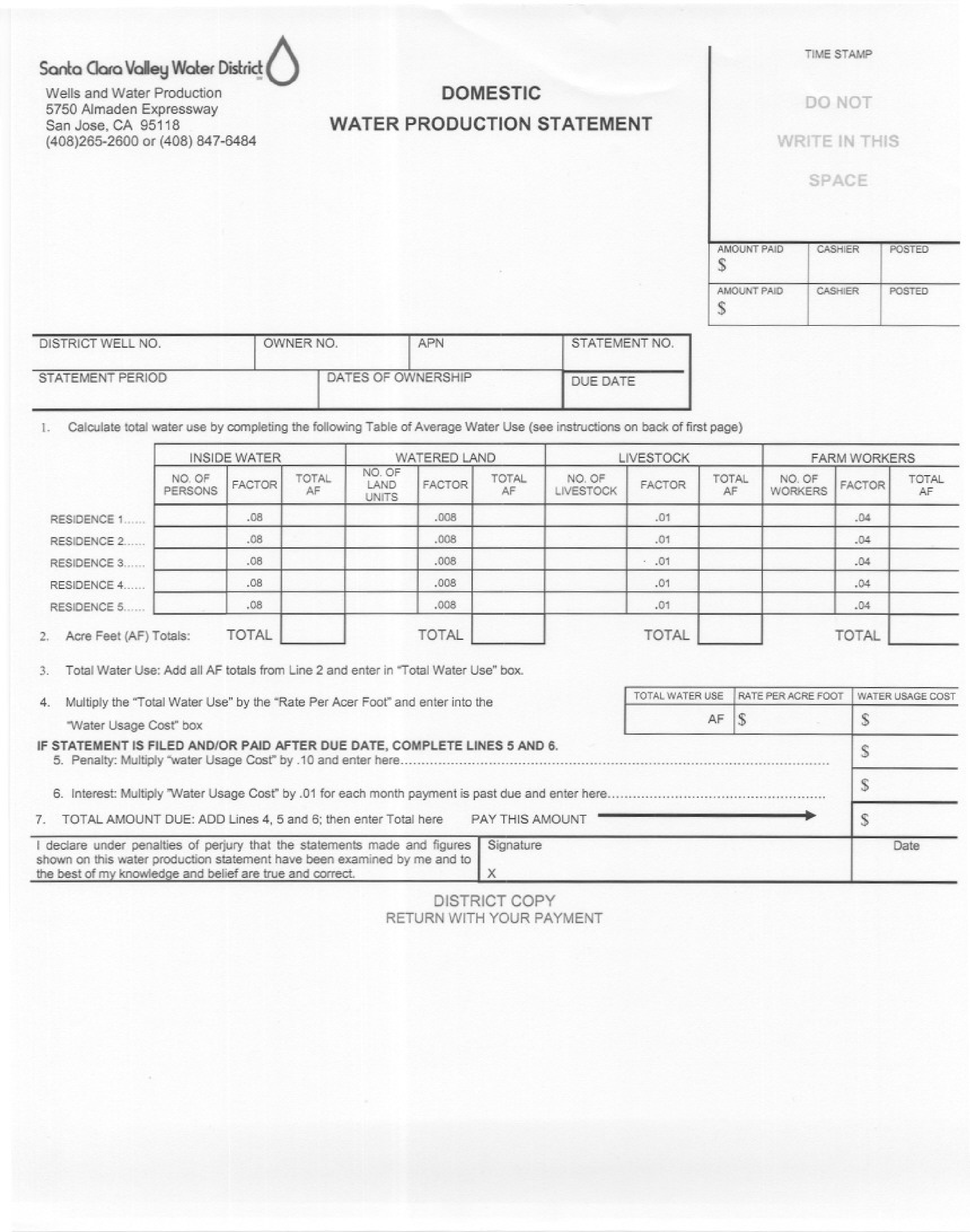
ATTEST: Violet V. Enander
Clerk of said Board of Directors

AS AMENDED 6/2/87
EFFECTIVE 7/4/87

Appendix C

Examples of Water Production Statements

Appendix C



Santa Clara Valley Water District
Wells and Water Production
5750 Almaden Expressway
San Jose, CA 95118
(408)265-2600 or (408) 847-6484

DOMESTIC
WATER PRODUCTION STATEMENT

TIME STAMP

DO NOT
WRITE IN THIS
SPACE

AMOUNT PAID $	CASHIER	POSTED
AMOUNT PAID $	CASHIER	POSTED

DISTRICT WELL NO.	OWNER NO.	APN	STATEMENT NO.
STATEMENT PERIOD	DATES OF OWNERSHIP		DUE DATE

1. Calculate total water use by completing the following Table of Average Water Use (see instructions on back of first page)

	INSIDE WATER			WATERED LAND			LIVESTOCK			FARM WORKERS		
	NO. OF PERSONS	FACTOR	TOTAL AF	NO. OF LAND UNITS	FACTOR	TOTAL AF	NO. OF LIVESTOCK	FACTOR	TOTAL AF	NO. OF WORKERS	FACTOR	TOTAL AF
RESIDENCE 1......		.08			.008			.01			.04	
RESIDENCE 2......		.08			.008			.01			.04	
RESIDENCE 3......		.08			.008			.01			.04	
RESIDENCE 4......		.08			.008			.01			.04	
RESIDENCE 5......		.08			.008			.01			.04	
2. Acre Feet (AF) Totals:		TOTAL			TOTAL			TOTAL			TOTAL	

3. Total Water Use: Add all AF totals from Line 2 and enter in "Total Water Use" box.

4. Multiply the "Total Water Use" by the "Rate Per Acer Foot" and enter into the "Water Usage Cost" box

TOTAL WATER USE	RATE PER ACRE FOOT	WATER USAGE COST
AF	$	$

IF STATEMENT IS FILED AND/OR PAID AFTER DUE DATE, COMPLETE LINES 5 AND 6.

5. Penalty: Multiply "water Usage Cost" by .10 and enter here.. $

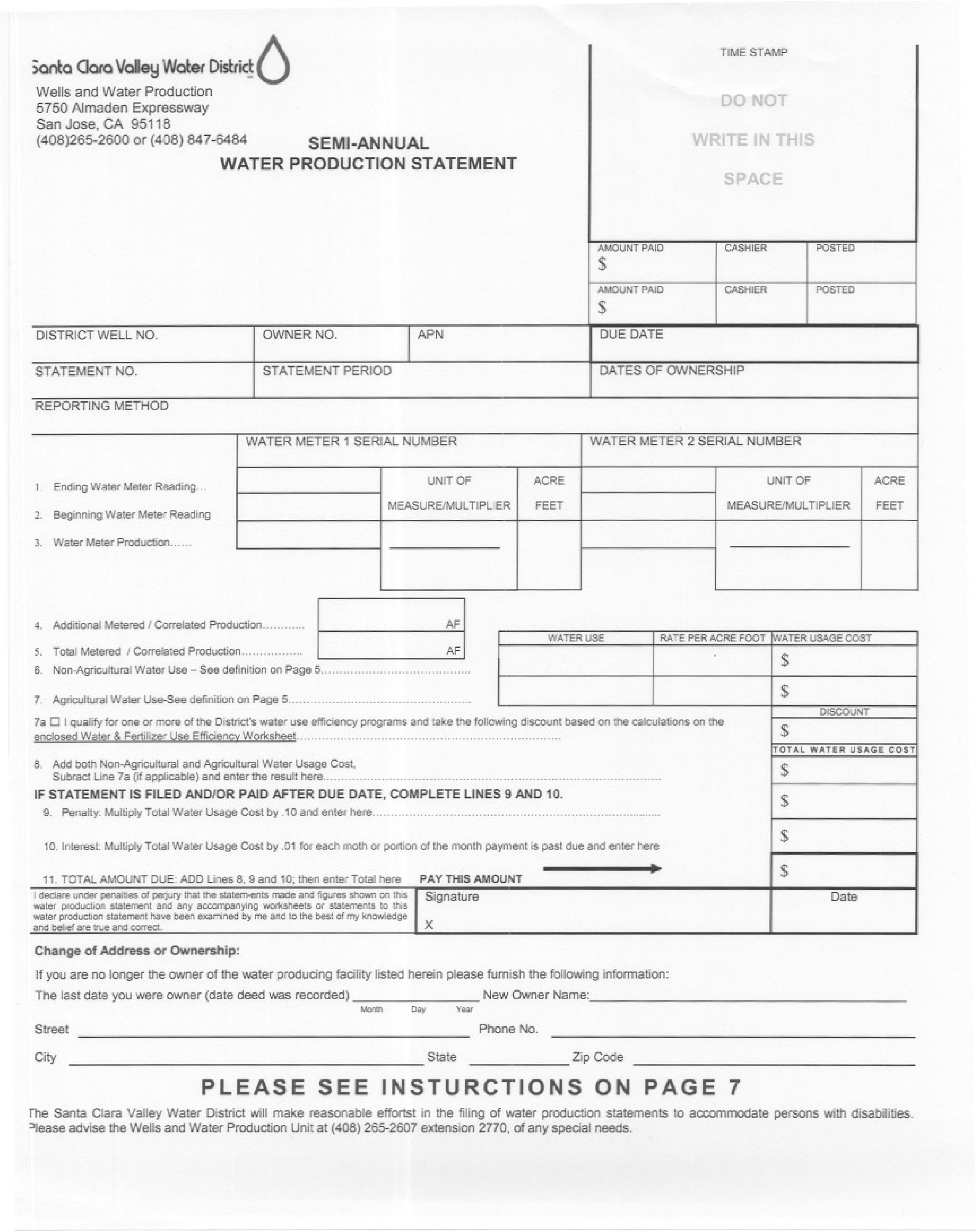
6. Interest: Multiply "Water Usage Cost" by .01 for each month payment is past due and enter here.. $

7. TOTAL AMOUNT DUE: ADD Lines 4, 5 and 6; then enter Total here PAY THIS AMOUNT → $

I declare under penalties of perjury that the statements made and figures shown on this water production statement have been examined by me and to the best of my knowledge and belief are true and correct.	Signature X	Date

DISTRICT COPY
RETURN WITH YOUR PAYMENT

Appendix C



Santa Clara Valley Water District
Wells and Water Production
5750 Almaden Expressway
San Jose, CA 95118
(408)265-2600 or (408) 847-6484

SEMI-ANNUAL
WATER PRODUCTION STATEMENT

TIME STAMP

DO NOT
WRITE IN THIS
SPACE

AMOUNT PAID $	CASHIER	POSTED
AMOUNT PAID $	CASHIER	POSTED

DISTRICT WELL NO.	OWNER NO.	APN	DUE DATE
STATEMENT NO.	STATEMENT PERIOD		DATES OF OWNERSHIP
REPORTING METHOD			

	WATER METER 1 SERIAL NUMBER			WATER METER 2 SERIAL NUMBER		
		UNIT OF MEASURE/MULTIPLIER	ACRE FEET		UNIT OF MEASURE/MULTIPLIER	ACRE FEET
1. Ending Water Meter Reading...						
2. Beginning Water Meter Reading						
3. Water Meter Production......						

4. Additional Metered / Correlated Production........... AF
5. Total Metered / Correlated Production................ AF

	WATER USE	RATE PER ACRE FOOT	WATER USAGE COST
6. Non-Agricultural Water Use – See definition on Page 5..			$
7. Agricultural Water Use-See definition on Page 5..			$

7a ☐ I qualify for one or more of the District's water use efficiency programs and take the following discount based on the calculations on the enclosed Water & Fertilizer Use Efficiency Worksheet.. DISCOUNT $

8. Add both Non-Agricultural and Agricultural Water Usage Cost,
Subract Line 7a (if applicable) and enter the result here.. TOTAL WATER USAGE COST $

IF STATEMENT IS FILED AND/OR PAID AFTER DUE DATE, COMPLETE LINES 9 AND 10.

9. Penalty: Multiply Total Water Usage Cost by .10 and enter here.. $

10. Interest: Multiply Total Water Usage Cost by .01 for each moth or portion of the month payment is past due and enter here $

11. TOTAL AMOUNT DUE: ADD Lines 8, 9 and 10; then enter Total here **PAY THIS AMOUNT** → $

I declare under penalties of perjury that the statem-ents made and figures shown on this water production statement and any accompanying worksheets or statements to this water production statement have been examined by me and to the best of my knowledge and belief are true and correct.	Signature X	Date

Change of Address or Ownership:

If you are no longer the owner of the water producing facility listed herein please furnish the following information:

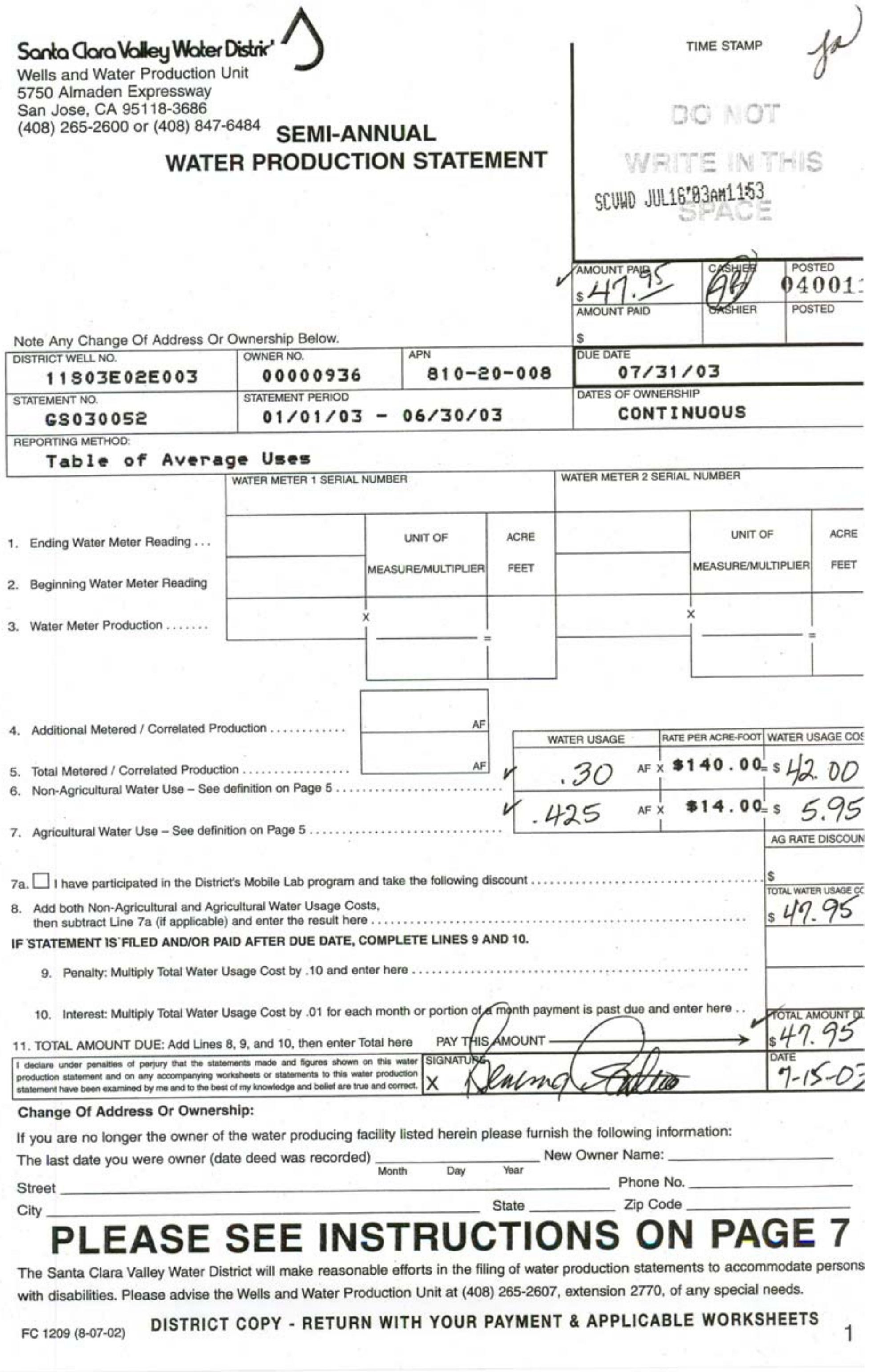
The last date you were owner (date deed was recorded) ______________ New Owner Name:______________________________
Month Day Year

Street ______________________________ Phone No. ______________________________

City ______________________________ State ____________ Zip Code ______________________________

PLEASE SEE INSTURCTIONS ON PAGE 7

The Santa Clara Valley Water District will make reasonable effortst in the filing of water production statements to accommodate persons with disabilities. Please advise the Wells and Water Production Unit at (408) 265-2607 extension 2770, of any special needs.



Santa Clara Valley Water District
Wells and Water Production Unit
5750 Almaden Expressway
San Jose, CA 95118-3686
(408) 265-2600 or (408) 847-6484

SEMI-ANNUAL
WATER PRODUCTION STATEMENT

TIME STAMP ja

DO NOT WRITE IN THIS SPACE

SCVWD JUL16'03AM11:53

AMOUNT PAID $47.95	CASHIER gb	POSTED 04001
AMOUNT PAID $	CASHIER	POSTED

Note Any Change Of Address Or Ownership Below.

DISTRICT WELL NO. 11S03E02E003	OWNER NO. 00000936	APN 810-20-008	DUE DATE 07/31/03
STATEMENT NO. GS030052	STATEMENT PERIOD 01/01/03 - 06/30/03		DATES OF OWNERSHIP CONTINUOUS
REPORTING METHOD: Table of Average Uses			

	WATER METER 1 SERIAL NUMBER			WATER METER 2 SERIAL NUMBER		
1. Ending Water Meter Reading . . .		UNIT OF MEASURE/MULTIPLIER	ACRE FEET		UNIT OF MEASURE/MULTIPLIER	ACRE FEET
2. Beginning Water Meter Reading						
3. Water Meter Production		X ______ =			X ______ =	

4. Additional Metered / Correlated Production . . . . AF

5. Total Metered / Correlated Production . . . . AF

	WATER USAGE		RATE PER ACRE-FOOT	WATER USAGE COS
6. Non-Agricultural Water Use – See definition on Page 5	.30	AF X	$140.00 =	$ 42.00
7. Agricultural Water Use – See definition on Page 5	.425	AF X	$14.00 =	$ 5.95

	AG RATE DISCOUN
7a. ☐ I have participated in the District's Mobile Lab program and take the following discount	$
	TOTAL WATER USAGE CC
8. Add both Non-Agricultural and Agricultural Water Usage Costs, then subtract Line 7a (if applicable) and enter the result here	$ 47.95

IF STATEMENT IS FILED AND/OR PAID AFTER DUE DATE, COMPLETE LINES 9 AND 10.

9. Penalty: Multiply Total Water Usage Cost by .10 and enter here	
10. Interest: Multiply Total Water Usage Cost by .01 for each month or portion of a month payment is past due and enter here	
11. TOTAL AMOUNT DUE: Add Lines 8, 9, and 10, then enter Total here PAY THIS AMOUNT →	TOTAL AMOUNT DU $47.95

I declare under penalties of perjury that the statements made and figures shown on this water production statement and on any accompanying worksheets or statements to this water production statement have been examined by me and to the best of my knowledge and belief are true and correct.	SIGNATURE X	DATE 7-15-0

Change Of Address Or Ownership:

If you are no longer the owner of the water producing facility listed herein please furnish the following information:

The last date you were owner (date deed was recorded) ______ Month Day Year New Owner Name: ______

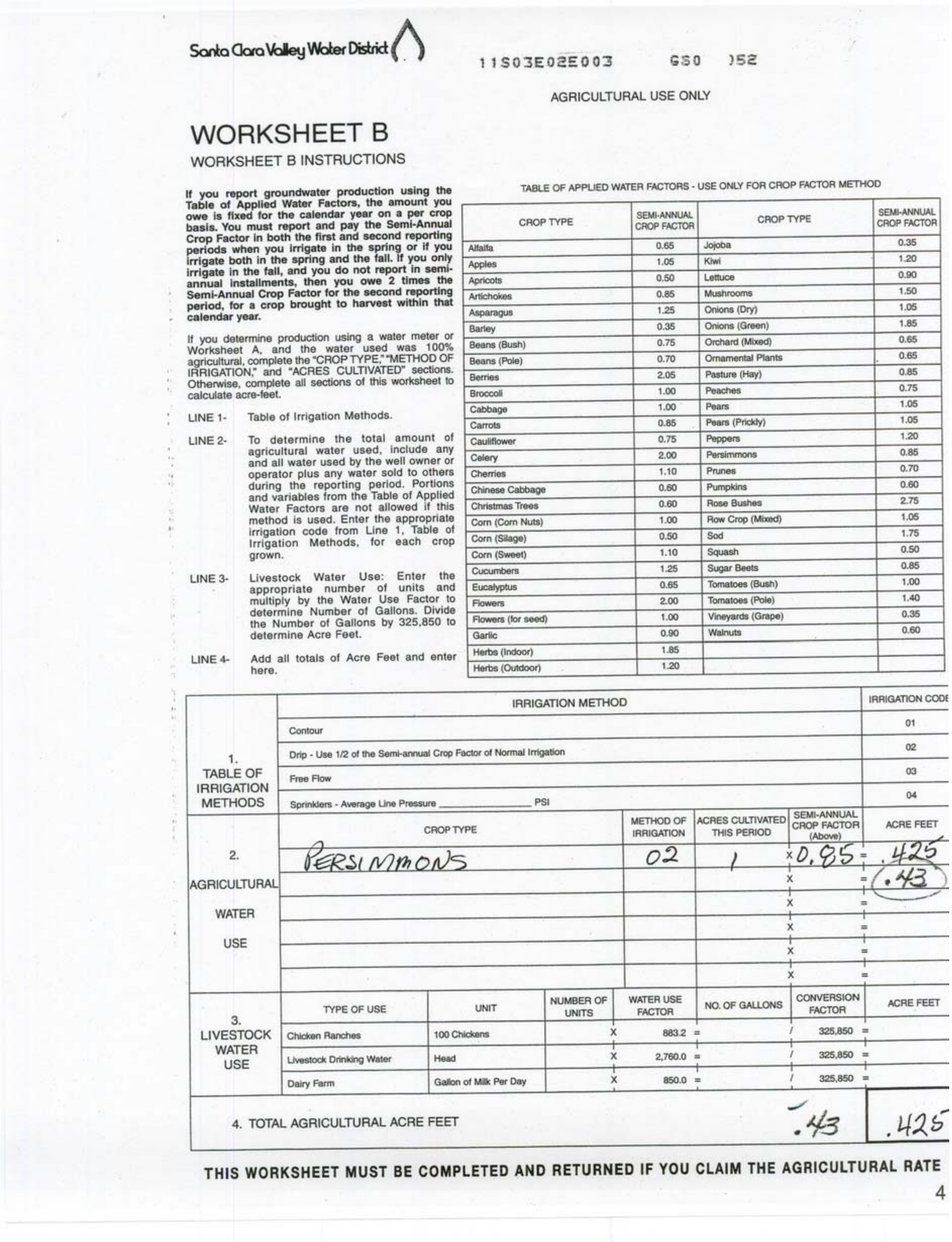
Street ______ Phone No. ______

City ______ State ______ Zip Code ______

PLEASE SEE INSTRUCTIONS ON PAGE 7

The Santa Clara Valley Water District will make reasonable efforts in the filing of water production statements to accommodate persons with disabilities. Please advise the Wells and Water Production Unit at (408) 265-2607, extension 2770, of any special needs.

FC 1209 (8-07-02) **DISTRICT COPY - RETURN WITH YOUR PAYMENT & APPLICABLE WORKSHEETS** 1



Santa Clara Valley Water District

11S03E02E003 GS0)52

AGRICULTURAL USE ONLY

WORKSHEET B

WORKSHEET B INSTRUCTIONS

If you report groundwater production using the Table of Applied Water Factors, the amount you owe is fixed for the calendar year on a per crop basis. You must report and pay the Semi-Annual Crop Factor in both the first and second reporting periods when you irrigate in the spring or if you irrigate both in the spring and the fall. If you only irrigate in the fall, and you do not report in semi-annual installments, then you owe 2 times the Semi-Annual Crop Factor for the second reporting period, for a crop brought to harvest within that calendar year.

If you determine production using a water meter or Worksheet A, and the water used was 100% agricultural, complete the "CROP TYPE," "METHOD OF IRRIGATION," and "ACRES CULTIVATED" sections. Otherwise, complete all sections of this worksheet to calculate acre-feet.

LINE 1- Table of Irrigation Methods.

LINE 2- To determine the total amount of agricultural water used, include any and all water used by the well owner or operator plus any water sold to others during the reporting period. Portions and variables from the Table of Applied Water Factors are not allowed if this method is used. Enter the appropriate irrigation code from Line 1, Table of Irrigation Methods, for each crop grown.

LINE 3- Livestock Water Use: Enter the appropriate number of units and multiply by the Water Use Factor to determine Number of Gallons. Divide the Number of Gallons by 325,850 to determine Acre Feet.

LINE 4- Add all totals of Acre Feet and enter here.

TABLE OF APPLIED WATER FACTORS - USE ONLY FOR CROP FACTOR METHOD

CROP TYPE	SEMI-ANNUAL CROP FACTOR	CROP TYPE	SEMI-ANNUAL CROP FACTOR
Alfalfa	0.65	Jojoba	0.35
Apples	1.05	Kiwi	1.20
Apricots	0.50	Lettuce	0.90
Artichokes	0.85	Mushrooms	1.50
Asparagus	1.25	Onions (Dry)	1.05
Barley	0.35	Onions (Green)	1.85
Beans (Bush)	0.75	Orchard (Mixed)	0.65
Beans (Pole)	0.70	Ornamental Plants	0.65
Berries	2.05	Pasture (Hay)	0.85
Broccoli	1.00	Peaches	0.75
Cabbage	1.00	Pears	1.05
Carrots	0.85	Pears (Prickly)	1.05
Cauliflower	0.75	Peppers	1.20
Celery	2.00	Persimmons	0.85
Cherries	1.10	Prunes	0.70
Chinese Cabbage	0.60	Pumpkins	0.60
Christmas Trees	0.60	Rose Bushes	2.75
Corn (Corn Nuts)	1.00	Row Crop (Mixed)	1.05
Corn (Silage)	0.50	Sod	1.75
Corn (Sweet)	1.10	Squash	0.50
Cucumbers	1.25	Sugar Beets	0.85
Eucalyptus	0.65	Tomatoes (Bush)	1.00
Flowers	2.00	Tomatoes (Pole)	1.40
Flowers (for seed)	1.00	Vineyards (Grape)	0.35
Garlic	0.90	Walnuts	0.60
Herbs (Indoor)	1.85		
Herbs (Outdoor)	1.20		

1. TABLE OF IRRIGATION METHODS	IRRIGATION METHOD	IRRIGATION CODE
	Contour	01
	Drip - Use 1/2 of the Semi-annual Crop Factor of Normal Irrigation	02
	Free Flow	03
	Sprinklers - Average Line Pressure ________________ PSI	04

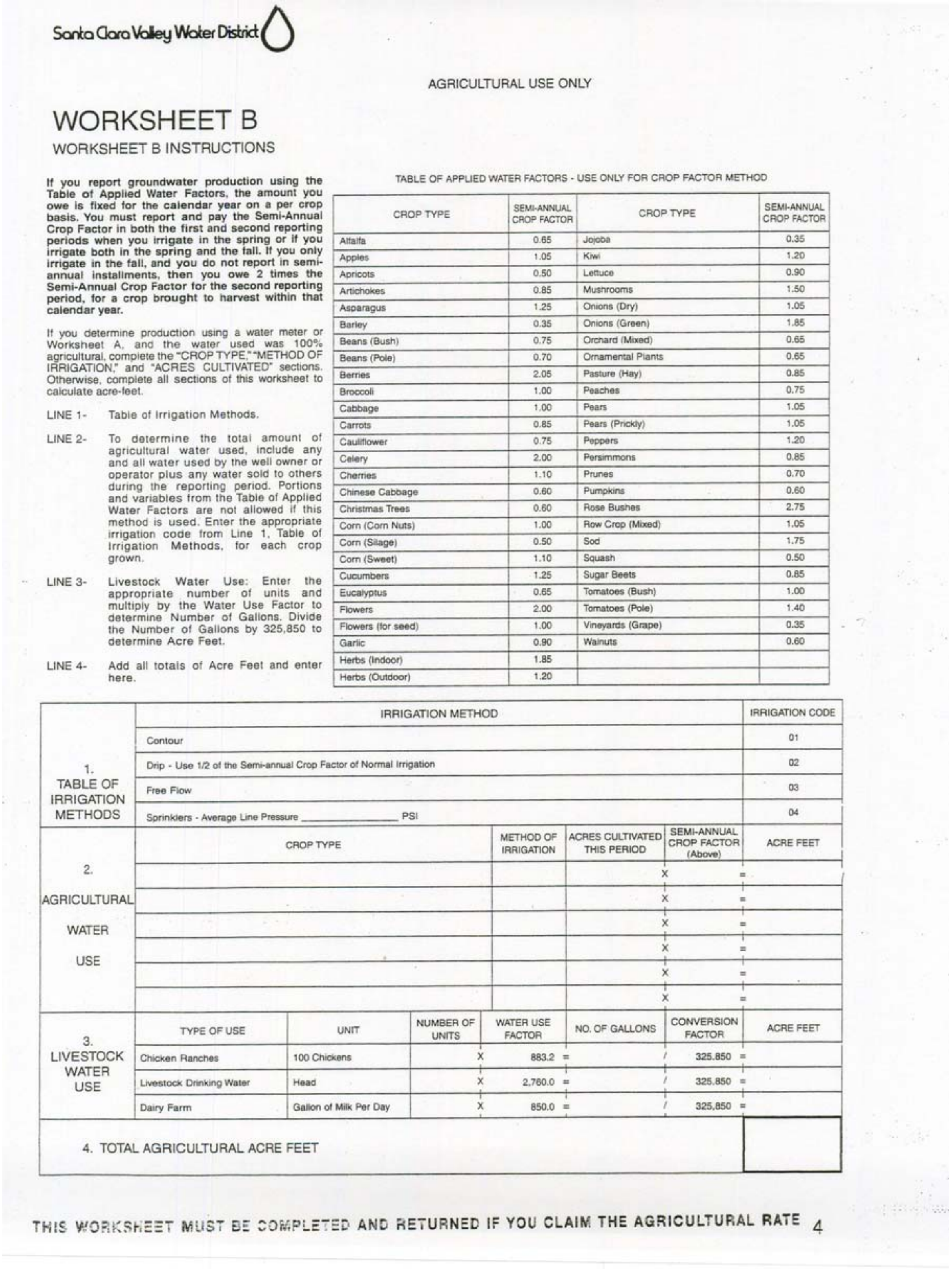
2. AGRICULTURAL WATER USE	CROP TYPE	METHOD OF IRRIGATION	ACRES CULTIVATED THIS PERIOD	SEMI-ANNUAL CROP FACTOR (Above)	ACRE FEET
	PERSIMMONS	02	1	x 0.85 =	.425 .43
				x =	
				x =	
				x =	
				x =	
				x =	

3. LIVESTOCK WATER USE	TYPE OF USE	UNIT	NUMBER OF UNITS	WATER USE FACTOR	NO. OF GALLONS	CONVERSION FACTOR	ACRE FEET
	Chicken Ranches	100 Chickens	X	883.2 =		/ 325,850 =	
	Livestock Drinking Water	Head	X	2,760.0 =		/ 325,850 =	
	Dairy Farm	Gallon of Milk Per Day	X	850.0 =		/ 325,850 =	

4. TOTAL AGRICULTURAL ACRE FEET	.43	.425

THIS WORKSHEET MUST BE COMPLETED AND RETURNED IF YOU CLAIM THE AGRICULTURAL RATE

4



Santa Clara Valley Water District

AGRICULTURAL USE ONLY

WORKSHEET B

WORKSHEET B INSTRUCTIONS

If you report groundwater production using the Table of Applied Water Factors, the amount you owe is fixed for the calendar year on a per crop basis. You must report and pay the Semi-Annual Crop Factor in both the first and second reporting periods when you irrigate in the spring or if you irrigate both in the spring and the fall. If you only irrigate in the fall, and you do not report in semi-annual installments, then you owe 2 times the Semi-Annual Crop Factor for the second reporting period, for a crop brought to harvest within that calendar year.

If you determine production using a water meter or Worksheet A, and the water used was 100% agricultural, complete the "CROP TYPE," "METHOD OF IRRIGATION," and "ACRES CULTIVATED" sections. Otherwise, complete all sections of this worksheet to calculate acre-feet.

LINE 1- Table of Irrigation Methods.

LINE 2- To determine the total amount of agricultural water used, include any and all water used by the well owner or operator plus any water sold to others during the reporting period. Portions and variables from the Table of Applied Water Factors are not allowed if this method is used. Enter the appropriate irrigation code from Line 1, Table of Irrigation Methods, for each crop grown.

LINE 3- Livestock Water Use: Enter the appropriate number of units and multiply by the Water Use Factor to determine Number of Gallons. Divide the Number of Gallons by 325,850 to determine Acre Feet.

LINE 4- Add all totals of Acre Feet and enter here.

TABLE OF APPLIED WATER FACTORS - USE ONLY FOR CROP FACTOR METHOD

CROP TYPE	SEMI-ANNUAL CROP FACTOR	CROP TYPE	SEMI-ANNUAL CROP FACTOR
Alfalfa	0.65	Jojoba	0.35
Apples	1.05	Kiwi	1.20
Apricots	0.50	Lettuce	0.90
Artichokes	0.85	Mushrooms	1.50
Asparagus	1.25	Onions (Dry)	1.05
Barley	0.35	Onions (Green)	1.85
Beans (Bush)	0.75	Orchard (Mixed)	0.65
Beans (Pole)	0.70	Ornamental Plants	0.65
Berries	2.05	Pasture (Hay)	0.85
Broccoli	1.00	Peaches	0.75
Cabbage	1.00	Pears	1.05
Carrots	0.85	Pears (Prickly)	1.05
Cauliflower	0.75	Peppers	1.20
Celery	2.00	Persimmons	0.85
Cherries	1.10	Prunes	0.70
Chinese Cabbage	0.60	Pumpkins	0.60
Christmas Trees	0.60	Rose Bushes	2.75
Corn (Corn Nuts)	1.00	Row Crop (Mixed)	1.05
Corn (Silage)	0.50	Sod	1.75
Corn (Sweet)	1.10	Squash	0.50
Cucumbers	1.25	Sugar Beets	0.85
Eucalyptus	0.65	Tomatoes (Bush)	1.00
Flowers	2.00	Tomatoes (Pole)	1.40
Flowers (for seed)	1.00	Vineyards (Grape)	0.35
Garlic	0.90	Walnuts	0.60
Herbs (Indoor)	1.85		
Herbs (Outdoor)	1.20		

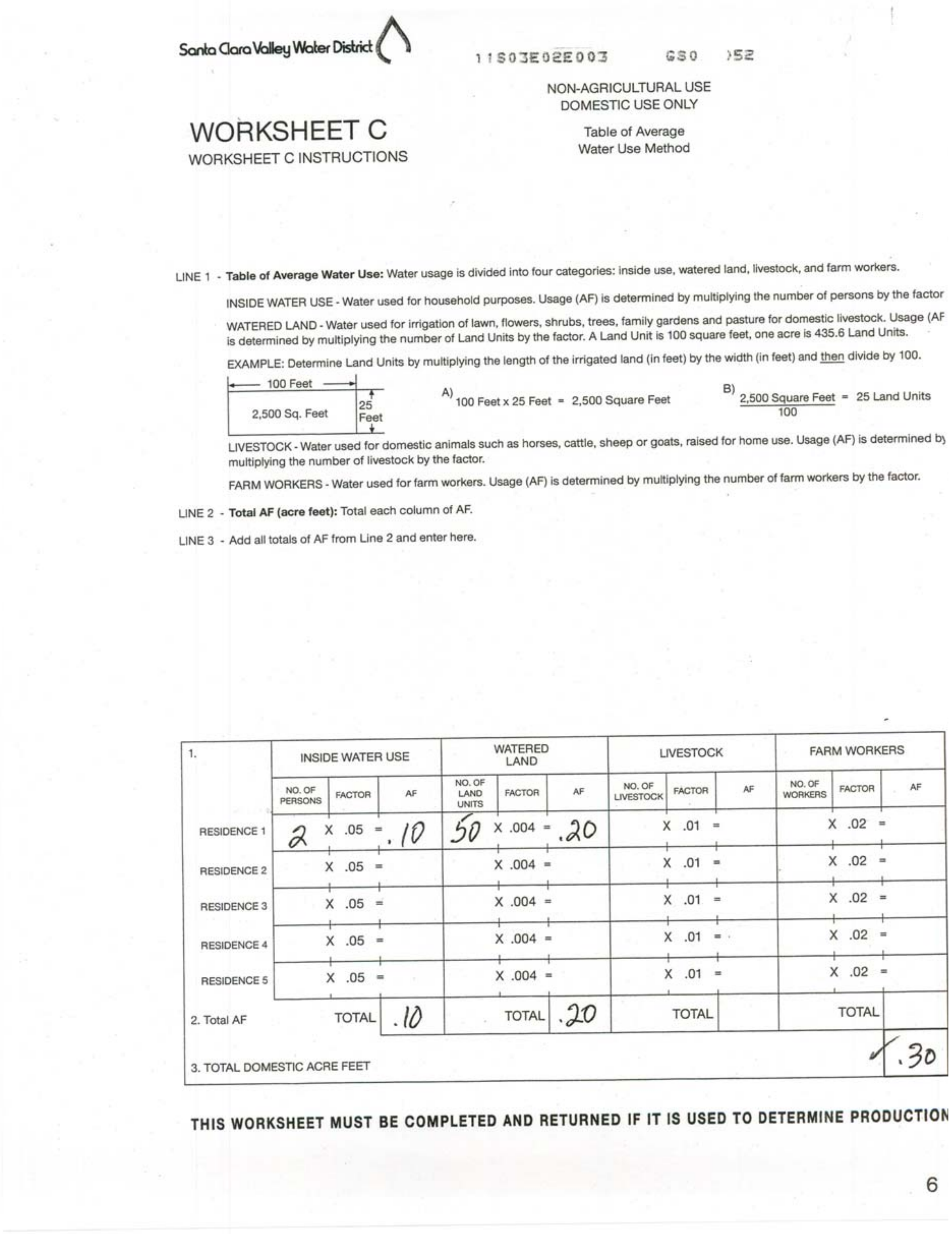
	IRRIGATION METHOD	IRRIGATION CODE
1. TABLE OF IRRIGATION METHODS	Contour	01
	Drip - Use 1/2 of the Semi-annual Crop Factor of Normal Irrigation	02
	Free Flow	03
	Sprinklers - Average Line Pressure ______________ PSI	04

	CROP TYPE	METHOD OF IRRIGATION	ACRES CULTIVATED THIS PERIOD	SEMI-ANNUAL CROP FACTOR (Above)	ACRE FEET
2. AGRICULTURAL WATER USE				X	=
				X	=
				X	=
				X	=
				X	=
				X	=

	TYPE OF USE	UNIT	NUMBER OF UNITS	WATER USE FACTOR	NO. OF GALLONS	CONVERSION FACTOR	ACRE FEET
3. LIVESTOCK WATER USE	Chicken Ranches	100 Chickens	X	883.2 =	/	325.850 =	
	Livestock Drinking Water	Head	X	2,760.0 =	/	325.850 =	
	Dairy Farm	Gallon of Milk Per Day	X	850.0 =	/	325.850 =	

4. TOTAL AGRICULTURAL ACRE FEET

THIS WORKSHEET MUST BE COMPLETED AND RETURNED IF YOU CLAIM THE AGRICULTURAL RATE 4



Santa Clara Valley Water District

11S03E02E003 GS0)52

NON-AGRICULTURAL USE
DOMESTIC USE ONLY

Table of Average
Water Use Method

WORKSHEET C

WORKSHEET C INSTRUCTIONS

LINE 1 - **Table of Average Water Use:** Water usage is divided into four categories: inside use, watered land, livestock, and farm workers.

INSIDE WATER USE - Water used for household purposes. Usage (AF) is determined by multiplying the number of persons by the factor

WATERED LAND - Water used for irrigation of lawn, flowers, shrubs, trees, family gardens and pasture for domestic livestock. Usage (AF is determined by multiplying the number of Land Units by the factor. A Land Unit is 100 square feet, one acre is 435.6 Land Units.

EXAMPLE: Determine Land Units by multiplying the length of the irrigated land (in feet) by the width (in feet) and then divide by 100.

100 Feet | 2,500 Sq. Feet | 25 Feet

A) 100 Feet x 25 Feet = 2,500 Square Feet

B) $\frac{2{,}500 \text{ Square Feet}}{100}$ = 25 Land Units

LIVESTOCK - Water used for domestic animals such as horses, cattle, sheep or goats, raised for home use. Usage (AF) is determined by multiplying the number of livestock by the factor.

FARM WORKERS - Water used for farm workers. Usage (AF) is determined by multiplying the number of farm workers by the factor.

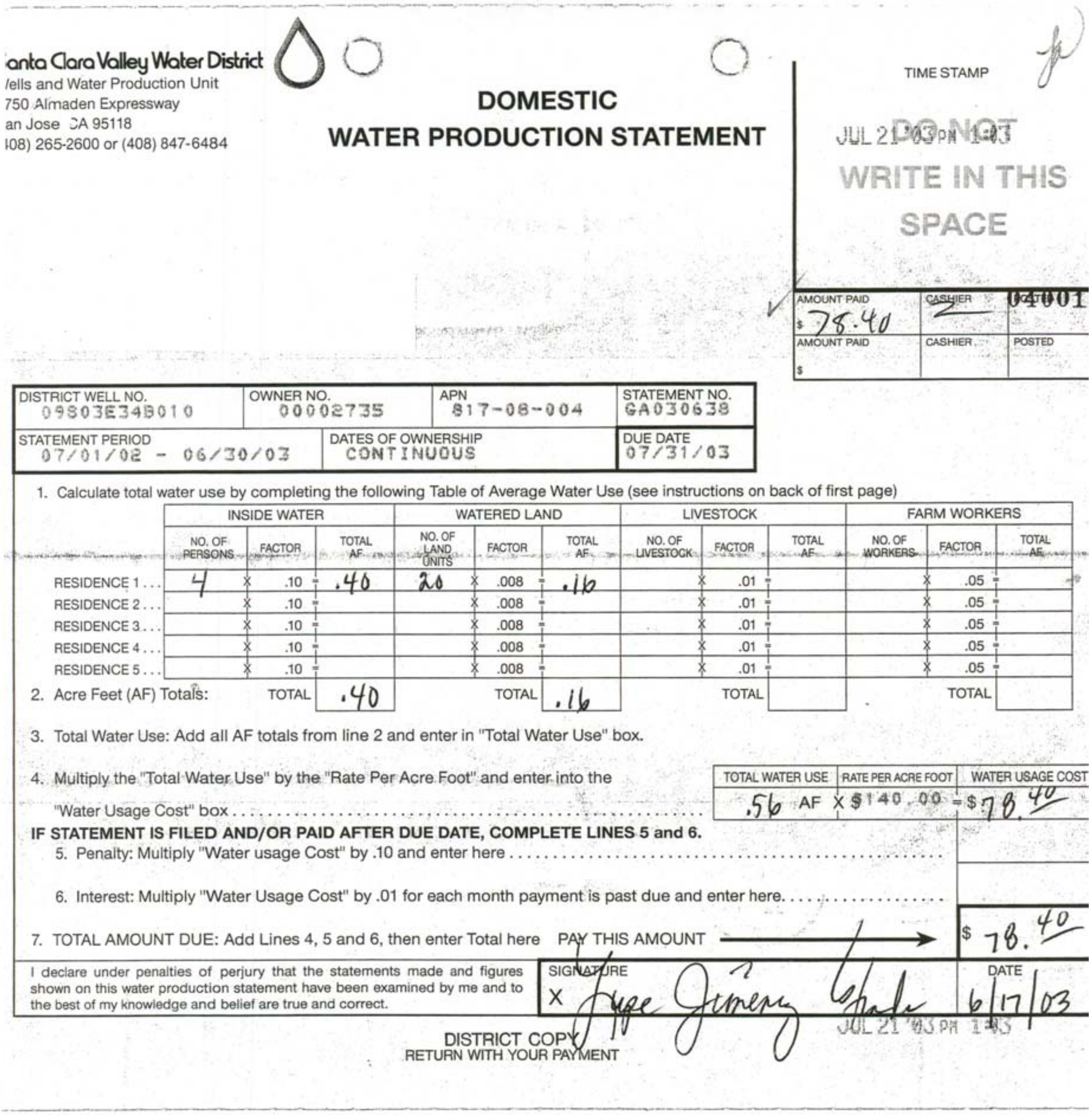
LINE 2 - **Total AF (acre feet):** Total each column of AF.

LINE 3 - Add all totals of AF from Line 2 and enter here.

1.	INSIDE WATER USE			WATERED LAND			LIVESTOCK			FARM WORKERS		
	NO. OF PERSONS	FACTOR	AF	NO. OF LAND UNITS	FACTOR	AF	NO. OF LIVESTOCK	FACTOR	AF	NO. OF WORKERS	FACTOR	AF
RESIDENCE 1	2	X .05 =	.10	50	X .004 =	.20		X .01 =			X .02 =	
RESIDENCE 2		X .05 =			X .004 =			X .01 =			X .02 =	
RESIDENCE 3		X .05 =			X .004 =			X .01 =			X .02 =	
RESIDENCE 4		X .05 =			X .004 =			X .01 =			X .02 =	
RESIDENCE 5		X .05 =			X .004 =			X .01 =			X .02 =	
2. Total AF		TOTAL	.10		TOTAL	.20		TOTAL			TOTAL	
3. TOTAL DOMESTIC ACRE FEET												✓.30

THIS WORKSHEET MUST BE COMPLETED AND RETURNED IF IT IS USED TO DETERMINE PRODUCTION

6



anta Clara Valley Water District
/ells and Water Production Unit
750 Almaden Expressway
an Jose CA 95118
08) 265-2600 or (408) 847-6484

DOMESTIC
WATER PRODUCTION STATEMENT

TIME STAMP

JUL 21 '03 PM 1:03

DO NOT WRITE IN THIS SPACE

AMOUNT PAID $ 78.40	CASHIER 2	04001
AMOUNT PAID $	CASHIER	POSTED

DISTRICT WELL NO. 09803E34B010	OWNER NO. 00002735	APN 817-08-004	STATEMENT NO. GA030638
STATEMENT PERIOD 07/01/02 - 06/30/03	DATES OF OWNERSHIP CONTINUOUS		DUE DATE 07/31/03

1. Calculate total water use by completing the following Table of Average Water Use (see instructions on back of first page)

	INSIDE WATER			WATERED LAND			LIVESTOCK			FARM WORKERS		
	NO. OF PERSONS	FACTOR	TOTAL AF	NO. OF LAND UNITS	FACTOR	TOTAL AF	NO. OF LIVESTOCK	FACTOR	TOTAL AF	NO. OF WORKERS	FACTOR	TOTAL AF
RESIDENCE 1 . . .	4	X .10 =	.40	20	X .008 =	.16		X .01 =			X .05 =	
RESIDENCE 2 . . .		X .10 =			X .008 =			X .01 =			X .05 =	
RESIDENCE 3 . . .		X .10 =			X .008 =			X .01 =			X .05 =	
RESIDENCE 4 . . .		X .10 =			X .008 =			X .01 =			X .05 =	
RESIDENCE 5 . . .		X .10 =			X .008 =			X .01 =			X .05 =	
2. Acre Feet (AF) Totals:		TOTAL	.40		TOTAL	.16		TOTAL			TOTAL	

3. Total Water Use: Add all AF totals from line 2 and enter in "Total Water Use" box.

4. Multiply the "Total Water Use" by the "Rate Per Acre Foot" and enter into the "Water Usage Cost" box . . . .

TOTAL WATER USE	RATE PER ACRE FOOT	WATER USAGE COST
.56 AF	X $140.00 =	$78.40

IF STATEMENT IS FILED AND/OR PAID AFTER DUE DATE, COMPLETE LINES 5 and 6.

5. Penalty: Multiply "Water usage Cost" by .10 and enter here . . . .

6. Interest: Multiply "Water Usage Cost" by .01 for each month payment is past due and enter here. . . . .

7. TOTAL AMOUNT DUE: Add Lines 4, 5 and 6, then enter Total here PAY THIS AMOUNT → $ 78.40

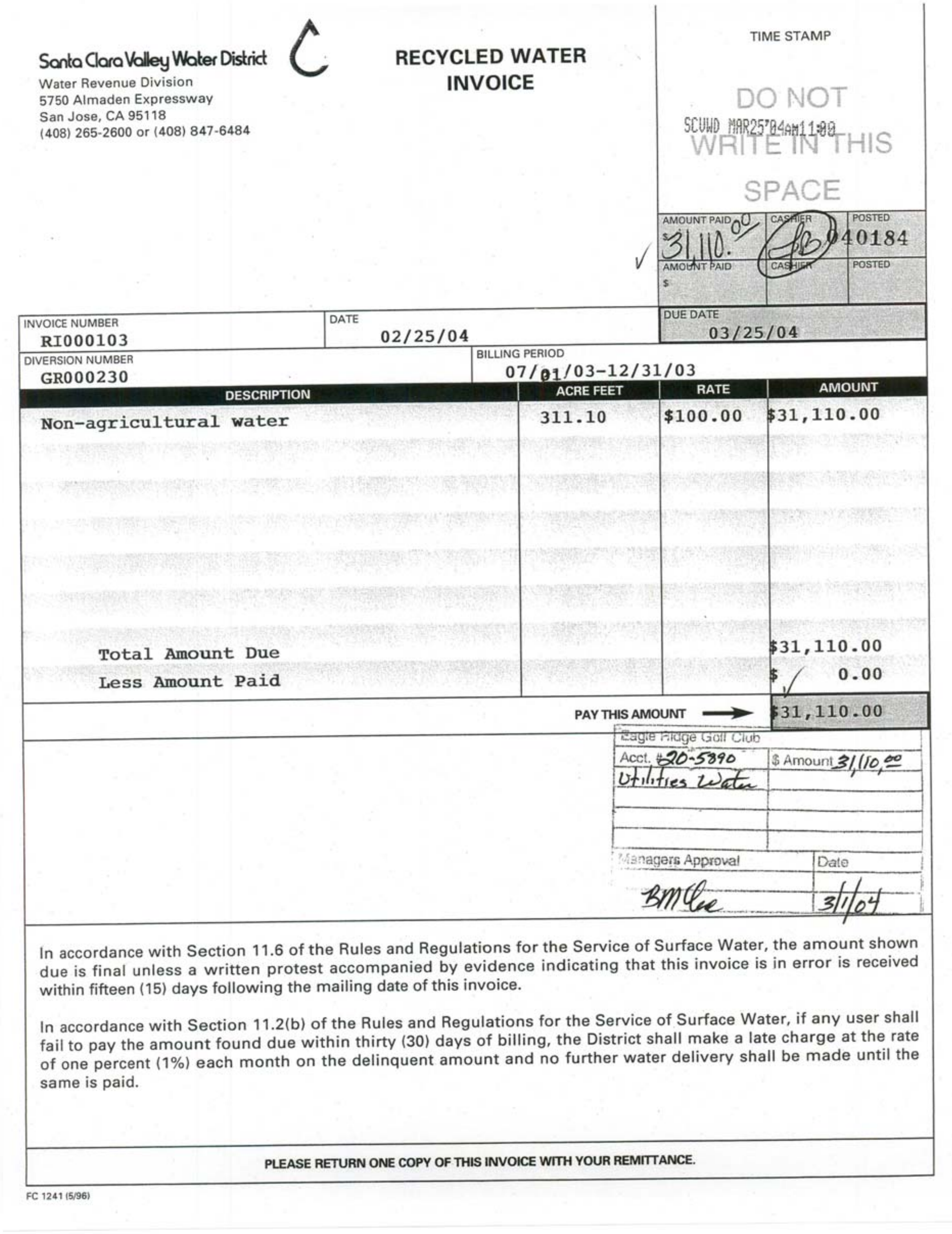
I declare under penalties of perjury that the statements made and figures shown on this water production statement have been examined by me and to the best of my knowledge and belief are true and correct.

SIGNATURE
X

DATE
6/17/03

JUL 21 '03 PM 1:03

DISTRICT COPY
RETURN WITH YOUR PAYMENT



Santa Clara Valley Water District
Water Revenue Division
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600 or (408) 847-6484

RECYCLED WATER INVOICE

TIME STAMP

DO NOT WRITE IN THIS SPACE

SCVWD MAR25'04AM11:00

AMOUNT PAID $ 31,110.00 ✓	CASHIER	POSTED 040184
AMOUNT PAID $	CASHIER	POSTED

INVOICE NUMBER RI000103	DATE 02/25/04	DUE DATE 03/25/04
DIVERSION NUMBER GR000230	BILLING PERIOD 07/01/03-12/31/03	

DESCRIPTION	ACRE FEET	RATE	AMOUNT
Non-agricultural water	311.10	$100.00	$31,110.00
Total Amount Due			$31,110.00
Less Amount Paid			$ ✓ 0.00
PAY THIS AMOUNT →			$31,110.00

Eagle Ridge Golf Club	
Acct. #20-5890	$ Amount 31,110.00
Utilities Water	

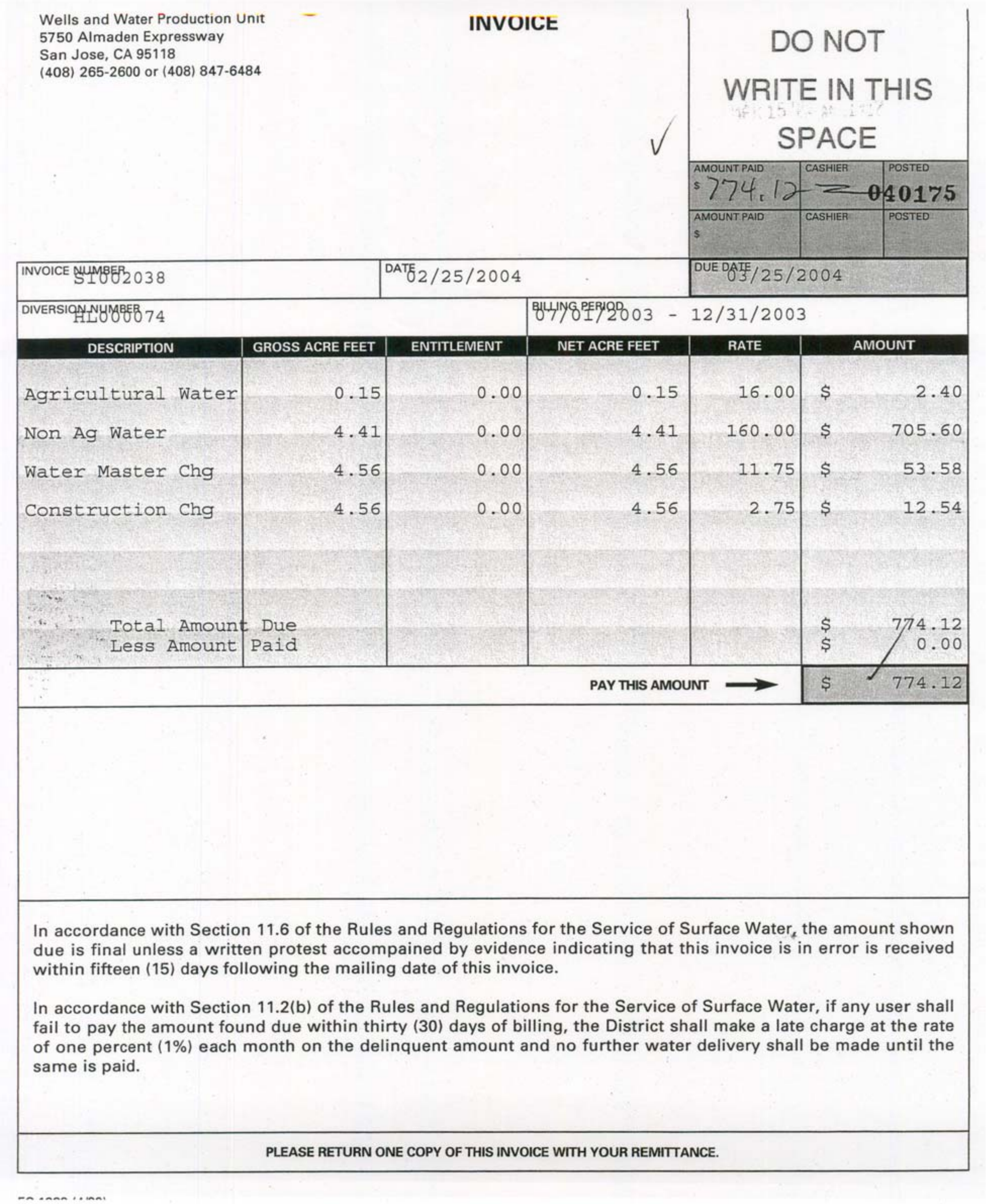
Managers Approval	Date
BMclee	3/1/04

In accordance with Section 11.6 of the Rules and Regulations for the Service of Surface Water, the amount shown due is final unless a written protest accompanied by evidence indicating that this invoice is in error is received within fifteen (15) days following the mailing date of this invoice.

In accordance with Section 11.2(b) of the Rules and Regulations for the Service of Surface Water, if any user shall fail to pay the amount found due within thirty (30) days of billing, the District shall make a late charge at the rate of one percent (1%) each month on the delinquent amount and no further water delivery shall be made until the same is paid.

PLEASE RETURN ONE COPY OF THIS INVOICE WITH YOUR REMITTANCE.

FC 1241 (5/96)



Wells and Water Production Unit
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600 or (408) 847-6484

INVOICE

✓

DO NOT WRITE IN THIS SPACE

AMOUNT PAID	CASHIER	POSTED
$ 774.12	2	040175
$		

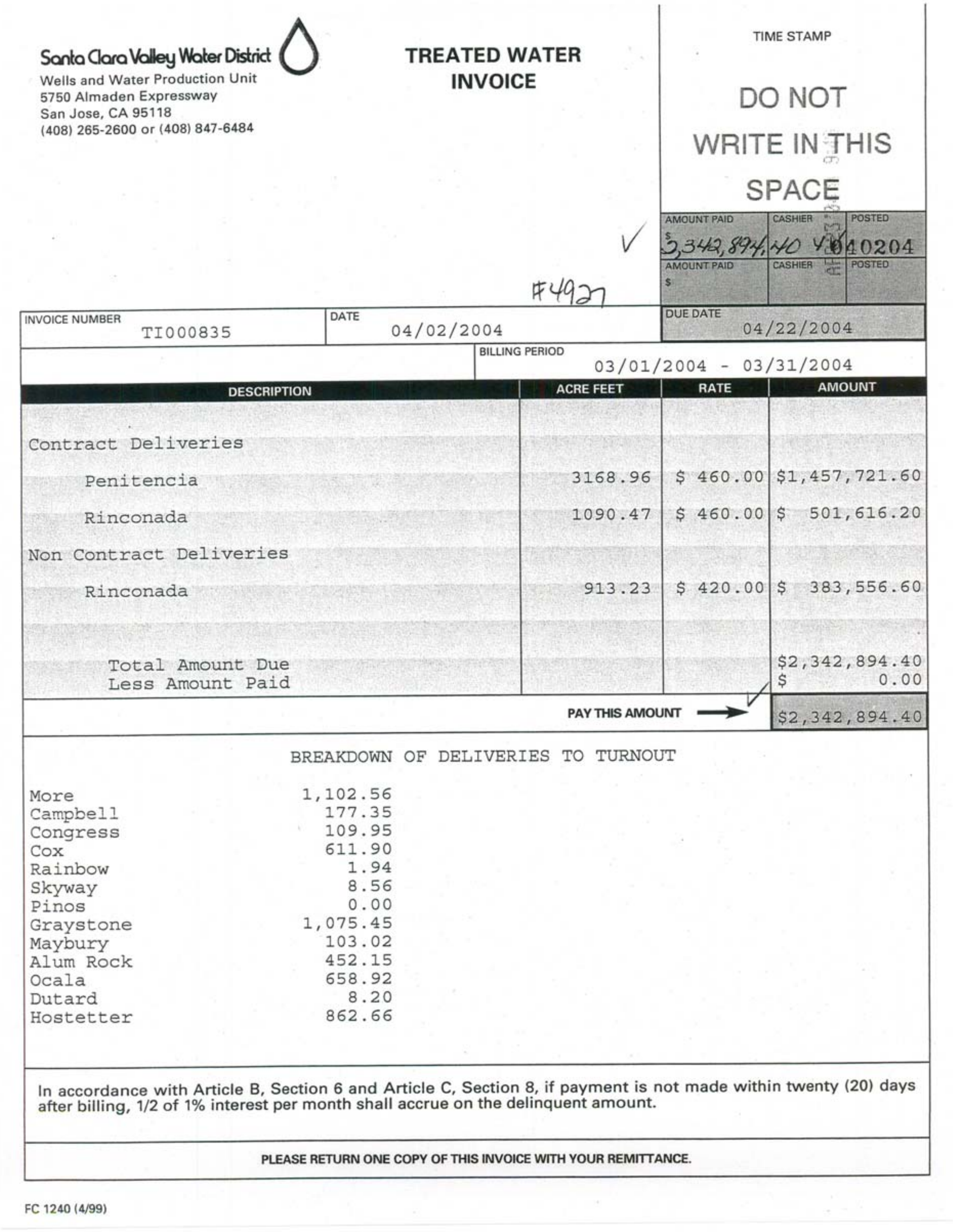
INVOICE NUMBER S1002038	DATE 02/25/2004	DUE DATE 03/25/2004
DIVERSION NUMBER HL000074	BILLING PERIOD 07/01/2003 - 12/31/2003	

DESCRIPTION	GROSS ACRE FEET	ENTITLEMENT	NET ACRE FEET	RATE	AMOUNT
Agricultural Water	0.15	0.00	0.15	16.00	$ 2.40
Non Ag Water	4.41	0.00	4.41	160.00	$ 705.60
Water Master Chg	4.56	0.00	4.56	11.75	$ 53.58
Construction Chg	4.56	0.00	4.56	2.75	$ 12.54
Total Amount Due					$ 774.12
Less Amount Paid					$ 0.00
				PAY THIS AMOUNT →	$ 774.12

In accordance with Section 11.6 of the Rules and Regulations for the Service of Surface Water, the amount shown due is final unless a written protest accompained by evidence indicating that this invoice is in error is received within fifteen (15) days following the mailing date of this invoice.

In accordance with Section 11.2(b) of the Rules and Regulations for the Service of Surface Water, if any user shall fail to pay the amount found due within thirty (30) days of billing, the District shall make a late charge at the rate of one percent (1%) each month on the delinquent amount and no further water delivery shall be made until the same is paid.

PLEASE RETURN ONE COPY OF THIS INVOICE WITH YOUR REMITTANCE.



Santa Clara Valley Water District
Wells and Water Production Unit
5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600 or (408) 847-6484

TREATED WATER INVOICE

TIME STAMP

DO NOT WRITE IN THIS SPACE

AMOUNT PAID	CASHIER	POSTED
$ 2,342,894.40	V	040204
$		

✓

#4927

INVOICE NUMBER	DATE	DUE DATE
TI000835	04/02/2004	04/22/2004

BILLING PERIOD 03/01/2004 - 03/31/2004

DESCRIPTION	ACRE FEET	RATE	AMOUNT
Contract Deliveries			
Penitencia	3168.96	$ 460.00	$1,457,721.60
Rinconada	1090.47	$ 460.00	$ 501,616.20
Non Contract Deliveries			
Rinconada	913.23	$ 420.00	$ 383,556.60
Total Amount Due			$2,342,894.40
Less Amount Paid			$ 0.00
PAY THIS AMOUNT →			$2,342,894.40 ✓

BREAKDOWN OF DELIVERIES TO TURNOUT

More	1,102.56
Campbell	177.35
Congress	109.95
Cox	611.90
Rainbow	1.94
Skyway	8.56
Pinos	0.00
Graystone	1,075.45
Maybury	103.02
Alum Rock	452.15
Ocala	658.92
Dutard	8.20
Hostetter	862.66

In accordance with Article B, Section 6 and Article C, Section 8, if payment is not made within twenty (20) days after billing, 1/2 of 1% interest per month shall accrue on the delinquent amount.

PLEASE RETURN ONE COPY OF THIS INVOICE WITH YOUR REMITTANCE.

FC 1240 (4/99)

Appendix D

Water Inventory Tables

Appendix D

Urban Table 1: 2002 Surface Water Supply

Month	Federal M&I Water (acre-feet)	Federal Ag Water (acre-feet)	State Water (acre-feet)	Reservoir Releases (acre-feet)	USBR 215/ SWP 21 (acre-feet)	HH Intertie wtr (acre-feet)	Other * (see below) (acre-feet)	Total (acre-feet)
January	6,845	439	0	7,826			1,436	16,546
February	5,926	380	0	5,812			3,000	15,118
March	8,971	576	1,612	5,416			337	16,912
April	9,125	586	2,255	5,174	2,716		1,111	20,967
May	13,038	837	5,130	5,394			0	24,399
June	9,949	638	7,513	5,406			2,053	25,559
July	10,886	699	10,292	5,574			0	27,451
August	11,185	718	11,112	6,014			0	29,029
September	10,205	655	9,362	7,363			0	27,585
October	12,378	794	2,819	6,962		407	1,925	25,285
November	8,768	563	3,415	5,053			1,626	19,425
December	6,116	393	1,662	10,966			3,102	22,239
TOTAL	113,393	7,277	55,172	76,960	2,716	407	14,590	270,515

* Other water is comprised of water transfers, exchanges, turnback pool purchases

Urban Table 2: 2002 Groundwater Supply

Month	District Groundwtr (acre-feet)	Billed M&I *(acre-feet)	Billed Ag Groundwtr *(acre-feet)
January	0	7,622	0
February	0	8,411	0
March	0	9,187	0
April	0	10,164	0
May	0	11,090	625
June	0	14,014	2,130
July	0	15,269	9,173
August	0	16,046	9,173
September	0	13,768	4,544
October	0	11,478	2,755
November	0	6,470	0
December	0	5,823	0
TOTAL	0	129,400	28,400

Monthly distribution based on San Jose Water Company's usage

Urban Table 3: 2002 Water Supply

Month	**Surface Water** (acre-feet)	**Ground-water** (acre-feet)	**Recycled M&I** (acre-feet)	**Total** (acre-feet)
January	16,546	7,622	0	24,168
February	15,118	8,411	0	23,529
March	16,912	9,187	0	26,099
April	20,967	10,164	0	31,131
May	24,399	11,715	0	36,114
June	25,559	16,144	0	41,703
July	27,451	24,442	0	51,893
August	29,029	25,219	0	54,248
September	27,585	18,312	0	45,897
October	25,285	14,233	0	39,518
November	19,425	6,470	0	25,895
December	22,239	5,823	0	28,062
TOTAL	270,515	157,800	0	428,315

Reclaimed water is treated urban waste water that is reused

Urban Table 4a: 2002 Urban Distribution System Losses

Area or Line	**Surface are** (sq. feet.)*	**Length** (feet)	**Leaks** (acre-feet)	**Breaks** (acre-feet)	**Evaporation** (acre-feet)	**Total** (acre-feet)
Reservoirs	varies throughout year				7,400	7,400
Whole syst **		739,200				0
						0
						0
						0
TOTAL		739,200	0	0	7,400	7,400

Evaporation is calculated taking into account changes is surface area as the reservoir fills and empties during the year.

Table 5: Ag 2002 Crop Water Needs

Crop	Area (crop acres)	Crop ET (AF/Ac)	Leaching Requirem (AF/Ac)	Cultural Practices (AF/Ac)	Effective Precipitati (AF/Ac)	Shallow Groundwtr (AF/Ac)	Applied Crop Wtr (acre-feet)
Peppers	2,420	1.80	0.16	0.05	0.1	0.0	4,622
Lettuce	2,024	1.03	0.09	0.05	0.1	0.0	2,166
Mixed Row	1,158	1.57	0.52	0.05	0.1	0.0	2,362
Cherries	1,016	2.98	0.26	0.00	0.5	0.0	2,784
Tomatoes (bush)	958	2.00	0.05	0.05	0.1	0.0	1,916
Grapes (vineyards)	1,000	1.70	0.15	0.00	0.5	0.0	1,350
Corn (sweet)	900	1.30	0.11	0.05	0.1		1,224
Ornamental nursery	928	4.65	0.40	0.00	0.0		4,686
	0	2.00	0.00	0.00	0.0	0.0	0
All other crops	7,407	1.92	0.05	0.05	0.1	0.0	14,221
Crop Acres	17,811						35,332

Table 6: Water Inventory

2002 Overall Water Budget

2002 Water Supply	Table 3		428,315	
Environmental Consumptive Use		minus	12,070	
Groundwater Recharge (Perc ponds & recharge wells)		minus	106,960	
Water Exchanges or Transfers		minus/plus	0	
Evaporation	Table 4b	minus	7,400	
Distribution System Leaks & Breaks	Table 4b	minus	0	
Non-Urban deliveries	<2,000 AF	minus	3,100	
Change in Reservoir Storage		minus	9,000	
	Water Supply Available for Sale		298,785	
2002 M&I Actual Water Sales	From District Records		275,800	
Inside Use	Feb use x 12	minus	100,932	feb sales x 12
Landscape / Outside Use	(calculated)		174,868	
2002 Actual Agricultural Water Sales	From District Sales Records*		29,400	
Private Groundwater pumping	Table 2	plus	0	estimate or zero
Crop Water Needs	Table 5	minus	35,332	
Percolation from Agricultural Land	(calculated)		(5,932)	

* District water sales only reflect agriculture use within water utility zones in the county. Some agriculture use is outside these zones. In addition, some agriculture use is from riparian water rights and is not reflected here.

Urban Table 7

Missing for the CVPIA Water Management Plan Planner. Therefore, Table 7 is not presented.

Urban Table 8:
Annual Water Quantities Delivered Under Each Right or Contract

Year	**Federal M&I Water** (acre-feet)	**Federal Ag Water** (acre-feet)	**State Water*** (acre-feet)	**Reservoir Releases** (acre-feet)	**HH Intertie wtr** (acre-feet)	**Total** (acre-feet)
1993	62,857	11,590	62,065	0	0	136,512
1994	75,321	13,379	69495	0	0	158,195
1995	116,215	9,035	28,756	0	0	154,006
1996	92,293	8,717	44,855	0	0	145,865
1997	83,102	8,244	60,601	0	0	151,947
1998	73,163	6,256	39,988	88,500	0	207,907
1999	104,548	9,122	52,942	83,200	0	249,812
2000	83,299	10,716	78,258	92,226	0	264,499
2001	106,477	7,242	47,922	59,262	6,079	226,982
2002	113,393	7,277	55,172	76,960	407	253,209
Total	910,668	91,578	540,054	400,148	6,486	1,948,934
Average	91,067	9,158	54,005	40,015	649	194,893

*includes carryover, transfers, etc

Urban Distribution System (DIS)

	INPUTS					OUTPUTS					
1998 Month	Federal urban wtr	State wtr	Local/ Other	District groundwtr	Recycled urban	Non-urban deliveries	Breaks/ Leaks	Unmeasured app uses	Urban deliveries	Groundwtr recharge	Unaccounted wtr
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
January	6,845	0	9,262	0	0						16,107
February	5,926	0	8,812	0	0						14,738
March	8,971	1,612	5,753	0	1						16,337
April	9,125	2,255	6,285	0	15						17,680
May	13,038	5,130	5,394	0	38						23,600
June	9,949	7,513	7,459	0	126						25,047
July	10,886	10,292	5,574	0	225						26,977
August	11,185	11,112	6,014	0	384						28,695
September	10,205	9,362	7,363	0	370						27,301
October	12,378	2,819	8,887	0	266						24,350
November	8,768	3,415	6,679	0	73						18,935
December	6,116	1,662	14,068	0	47						21,893
TOTAL	113,393	55,172	91,550	0	1,545	0	0	0	0	0	261,660

Yearly values from Urban Tables

Appendix D

Urban Lands (UL)

	INPUTS			OUTPUTS			
1998 Month	**Urban deliveri**	**Private ground**	**Precipit ation**	**Evaporati on**	**Wastewt r flow**	**ETAW Landsca**	**Seepag e/ Deep**
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
January	0						0
February	0						0
March	0						0
April	0						0
May	0						0
June	0						0
July	0						0
August	0						0
Septembe	0						0
October	0						0
Novembe	0						0
Decembe	0						0
TOTAL	0	0	0	0	0	0	0

Urban Wastewater Collection System (WCS)

	INPUTS		OUTPUTS		
1998 Month	**Wastewt r flow**	**Infiltrati on**	**Wastewt r**	**Recycled urban**	**Seepag e/**
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
January	0			0	0
February	0			0	0
March	0			1	(1)
April	0			15	(15)
May	0			38	(38)
June	0			126	(126)
July	0			225	(225)
August	0			384	(384)
Septembe	0			370	(370)
October	0			266	(266)
Novembe	0			73	(73)
Decembe	0			47	(47)
TOTAL	0	0	0	1,545	(1,545)

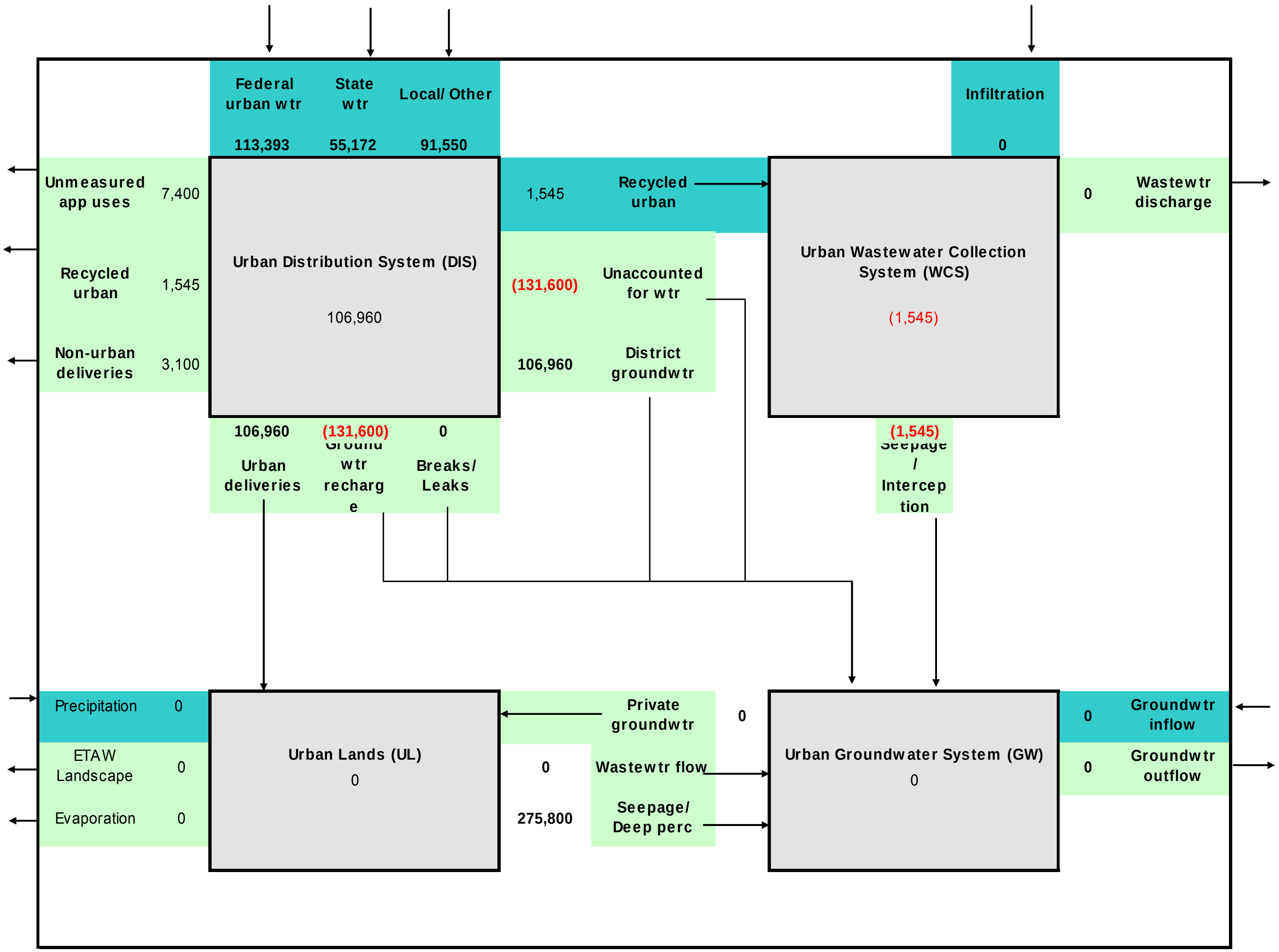
Urban Groundwater System (GW)

	INPUTS				OUTPUTS				
1998 Month	Breaks/ Leaks (acre-feet)	Seepage/ Deep perc (acre-feet)	Unaccounted wtr (acre-feet)	Groundwtr inflow (acre-feet)	Groundwtr outflow (acre-feet)	Seepage/ Interception (acre-feet)	District groundwtr (acre-feet)	Private groundwtr (acre-feet)	Net groundwtr (acre-feet)
January	0	0	16,107			0	0	0	
February	0	0	14,738			0	0	0	
March	0	0	16,337			(1)	0	0	
April	0	0	17,680			(15)	0	0	
May	0	0	23,600			(38)	0	0	
June	0	0	25,047			(126)	0	0	
July	0	0	26,977			(225)	0	0	
August	0	0	28,695			(384)	0	0	
September	0	0	27,301			(370)	0	0	
October	0	0	24,350			(266)	0	0	
November	0	0	18,935			(73)	0	0	
December	0	0	21,893			(47)	0	0	
TOTAL	0	0	261,660	0	0	(1,545)	0	0	0

Urban Water Accounting

Priority	Flow Path	Source /Basis	Flow Path Title/Description	1999	2000	2001	2002	Average
Urban Distribution System (DIS)								
1	DIS1	input	Federal urban wtr	113,393				113,393
1	DIS2	input	State wtr	55,172				55,172
1	DIS3	input	Local/ Other	91,550				91,550
1	DIS4	input	District groundwtr	0				0
1	DIS5	input	Recycled urban	1,545				1,545
1	DIS6	output	Non-urban deliveries	3,100				3,100
2	DIS7	output	Breaks/ Leaks	0				0
2	DIS8	output	Unmeasured app uses	7,400				7,400
1	DIS9	output	Urban deliveries	275,800				275,800
1	DIS10	output	Groundwtr recharge	106,960				106,960
Calc	DIS11	**closure**	Unaccounted wtr	(131,600)	0	0	0	(32,900)
Urban Lands (UL)								
1	UL1	Input(DIS10)	Urban deliveries	275,800				275,800
1	UL2	input	Private groundwtr	0				0
2	UL3	input	Precipitation	0				0
1	UL4	output	Wastewtr flow	0				0
1	UL5	output	ETAW Landscape	0				0
2	UL6	output	Evaporation	0				0
Calc	UL7	**closure**	Seepage/ Deep perc	275,800	0	0	0	68,950
Urban Wastewater Collection System (WCS)								
1	WCS1	input(UL4)	Wastewtr flow	0				0
2	WCS2	input	Infiltration	0				0
1	WCS3	output	Wastewtr discharge	0				0
1	WCS5	output(DIS6)	Recycled urban	1,545				1,545
Calc	WCS6	**closure**	Seepage/ Interception	(1,545)				(1,545)
Urban Groundwater System (GW)								
2	GW1	input(DIS8)	Breaks/ Leaks	0				0
Calc	GW2	input(UL7)	Seepage/ Deep perc	0				0
Calc	GW3	input(DIS12)	Unaccounted wtr	261,660				261,660
2	GW4	input	Groundwtr inflow	0				0
2	GW5	output	Groundwtr outflow	0				0
Calc	GW6	in/out(WCS6)	Seepage/ Interception	(1,545)				(1,545)
1	GW7	output(DIS5)	District groundwtr	0				0
1	GW8	input(DIS11)	Groundwtr recharge	106,960				
1	GW9	output(UL2)	Private groundwtr	0				0
Calc	GW10	**closure**	Net groundwtr exchange	367,075	0	0	0	91,769

Standard District Water Balance Structure for Urban Water Management Planning



DELIVERIES REPORTED DURING THE YEAR

	Federal urban wtr (acre-feet)	Federal Ag wtr (acre-feet)	Total (acre-feet)
January	7,284	0	7,284
February	6,306	0	6,306
March	9,547	0	9,547
April	8,411	1,300	9,711
May	10,275	3,600	13,875
June	6,987	3,600	10,587
July	7,585	4,000	11,585
August	8,703	3,200	11,903
September	7,660	3,200	10,860
October	10,172	3,000	13,172
November	8,061	1,270	9,331
December	6,509	0	6,509
TOTAL	**97,500**	**23,170**	**120,670**

DELIVERIES PER EOY CVP WATER ALLOCATION REPORT

113,393	7,277	120,670

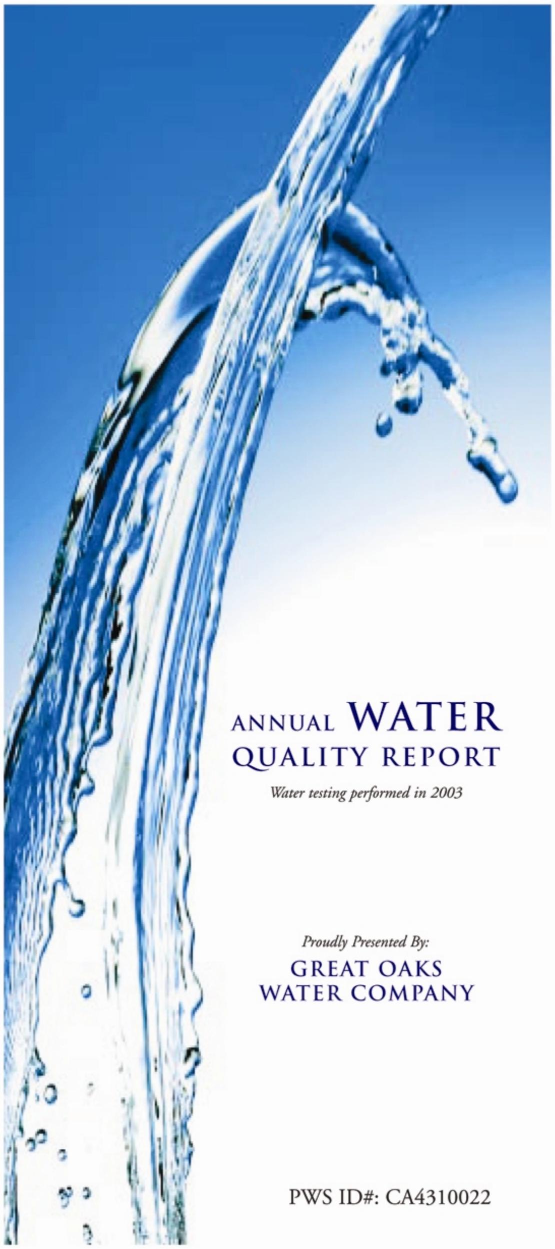
PRORATE MONTHLY DELIVERIES ACCORDING TO EOY DELIVERY

	M&I	**Ag**	**Total**
January	6,845	439	7,284
February	5,926	380	6,306
March	8,971	576	9,547
April	9,125	586	9,711
May	13,038	837	13,875
June	9,949	638	10,587
July	10,886	699	11,585
August	11,185	718	11,903
September	10,205	655	10,860
October	12,378	794	13,172
November	8,768	563	9,331
December	6,116	393	6,509
TOTAL	**113,393**	**7,277**	**120,670**

Appendix E

Consumer Confidence Reports for Water Retailers Purchasing Water from the Santa Clara Valley Water District

Appendix E



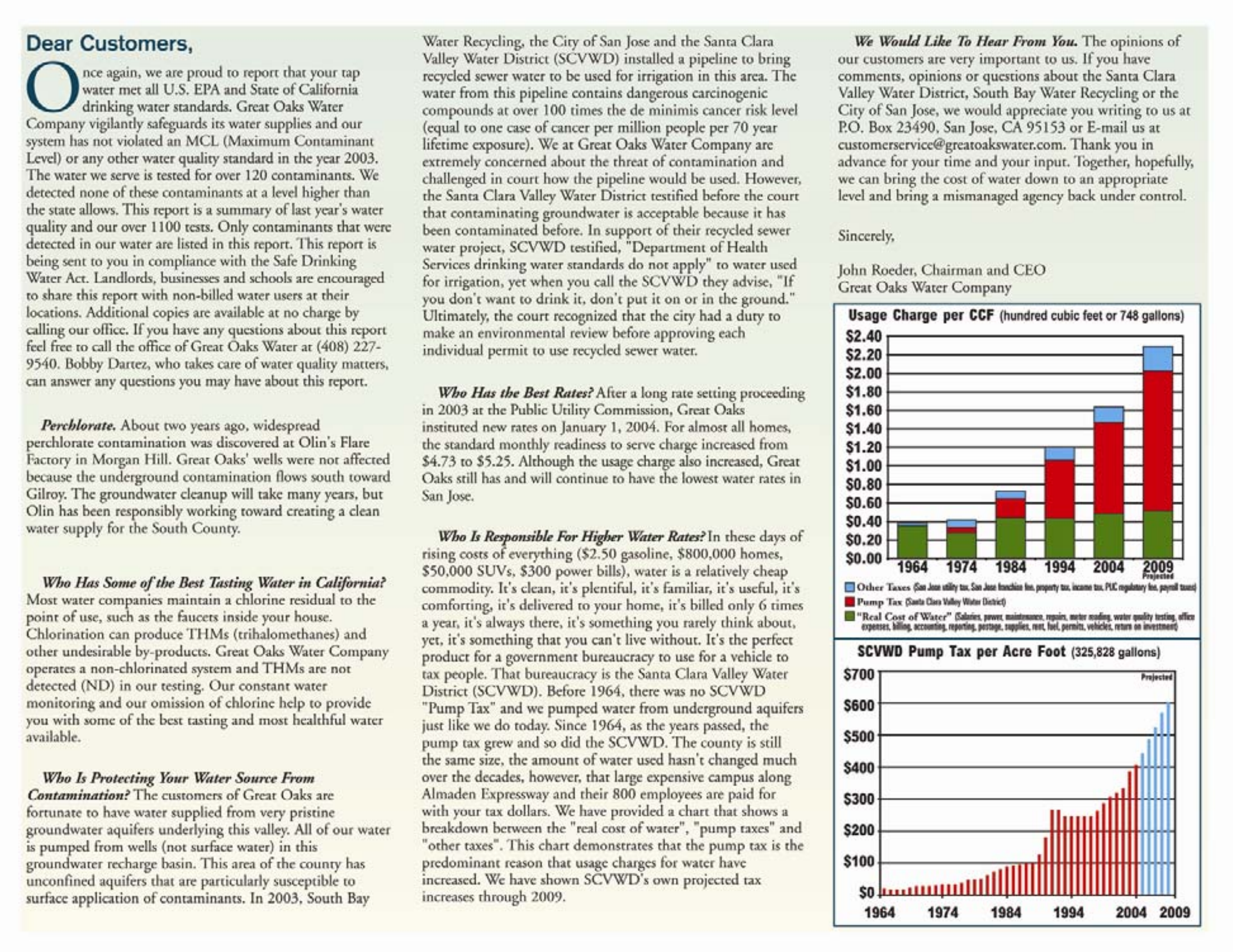
ANNUAL WATER QUALITY REPORT

Water testing performed in 2003

Proudly Presented By:

GREAT OAKS
WATER COMPANY

PWS ID#: CA4310022



Dear Customers,

Once again, we are proud to report that your tap water met all U.S. EPA and State of California drinking water standards. Great Oaks Water Company vigilantly safeguards its water supplies and our system has not violated an MCL (Maximum Contaminant Level) or any other water quality standard in the year 2003. The water we serve is tested for over 120 contaminants. We detected none of these contaminants at a level higher than the state allows. This report is a summary of last year's water quality and our over 1100 tests. Only contaminants that were detected in our water are listed in this report. This report is being sent to you in compliance with the Safe Drinking Water Act. Landlords, businesses and schools are encouraged to share this report with non-billed water users at their locations. Additional copies are available at no charge by calling our office. If you have any questions about this report feel free to call the office of Great Oaks Water at (408) 227-9540. Bobby Dartez, who takes care of water quality matters, can answer any questions you may have about this report.

Perchlorate. About two years ago, widespread perchlorate contamination was discovered at Olin's Flare Factory in Morgan Hill. Great Oaks' wells were not affected because the underground contamination flows south toward Gilroy. The groundwater cleanup will take many years, but Olin has been responsibly working toward creating a clean water supply for the South County.

Who Has Some of the Best Tasting Water in California? Most water companies maintain a chlorine residual to the point of use, such as the faucets inside your house. Chlorination can produce THMs (trihalomethanes) and other undesirable by-products. Great Oaks Water Company operates a non-chlorinated system and THMs are not detected (ND) in our testing. Our constant water monitoring and our omission of chlorine help to provide you with some of the best tasting and most healthful water available.

Who Is Protecting Your Water Source From Contamination? The customers of Great Oaks are fortunate to have water supplied from very pristine groundwater aquifers underlying this valley. All of our water is pumped from wells (not surface water) in this groundwater recharge basin. This area of the county has unconfined aquifers that are particularly susceptible to surface application of contaminants. In 2003, South Bay Water Recycling, the City of San Jose and the Santa Clara Valley Water District (SCVWD) installed a pipeline to bring recycled sewer water to be used for irrigation in this area. The water from this pipeline contains dangerous carcinogenic compounds at over 100 times the de minimis cancer risk level (equal to one case of cancer per million people per 70 year lifetime exposure). We at Great Oaks Water Company are extremely concerned about the threat of contamination and challenged in court how the pipeline would be used. However, the Santa Clara Valley Water District testified before the court that contaminating groundwater is acceptable because it has been contaminated before. In support of their recycled sewer water project, SCVWD testified, "Department of Health Services drinking water standards do not apply" to water used for irrigation, yet when you call the SCVWD they advise, "If you don't want to drink it, don't put it on or in the ground." Ultimately, the court recognized that the city had a duty to make an environmental review before approving each individual permit to use recycled sewer water.

Who Has the Best Rates? After a long rate setting proceeding in 2003 at the Public Utility Commission, Great Oaks instituted new rates on January 1, 2004. For almost all homes, the standard monthly readiness to serve charge increased from $4.73 to $5.25. Although the usage charge also increased, Great Oaks still has and will continue to have the lowest water rates in San Jose.

Who Is Responsible For Higher Water Rates? In these days of rising costs of everything ($2.50 gasoline, $800,000 homes, $50,000 SUVs, $300 power bills), water is a relatively cheap commodity. It's clean, it's plentiful, it's familiar, it's useful, it's comforting, it's delivered to your home, it's billed only 6 times a year, it's always there, it's something you rarely think about, yet, it's something that you can't live without. It's the perfect product for a government bureaucracy to use for a vehicle to tax people. That bureaucracy is the Santa Clara Valley Water District (SCVWD). Before 1964, there was no SCVWD "Pump Tax" and we pumped water from underground aquifers just like we do today. Since 1964, as the years passed, the pump tax grew and so did the SCVWD. The county is still the same size, the amount of water used hasn't changed much over the decades, however, that large expensive campus along Almaden Expressway and their 800 employees are paid for with your tax dollars. We have provided a chart that shows a breakdown between the "real cost of water", "pump taxes" and "other taxes". This chart demonstrates that the pump tax is the predominant reason that usage charges for water have increased. We have shown SCVWD's own projected tax increases through 2009.

We Would Like To Hear From You. The opinions of our customers are very important to us. If you have comments, opinions or questions about the Santa Clara Valley Water District, South Bay Water Recycling or the City of San Jose, we would appreciate you writing to us at P.O. Box 23490, San Jose, CA 95153 or E-mail us at customerservice@greatoakswater.com. Thank you in advance for your time and your input. Together, hopefully, we can bring the cost of water down to an appropriate level and bring a mismanaged agency back under control.

Sincerely,

John Roeder, Chairman and CEO
Great Oaks Water Company

Usage Charge per CCF (hundred cubic feet or 748 gallons)
$2.40
$2.20
$2.00
$1.80
$1.60
$1.40
$1.20
$1.00
$0.80
$0.60
$0.40
$0.20
$0.00
1964
1974
1984
1994
2004
2009
Projected
Other Taxes (San Jose utility tax, San Jose franchise fee, property tax, income tax, PUC regulatory fee, payroll taxes)
Pump Tax (Santa Clara Valley Water District)
"Real Cost of Water" (Salaries, power, maintenance, repairs, meter reading, water quality testing, office expenses, billing, accounting, reporting, postage, supplies, rent, fuel, permits, vehicles, return on investment)
SCVWD Pump Tax per Acre Foot (325,828 gallons)
$700
$600
$500
$400
$300
$200
$100
$0
Projected
1964
1974
1984
1994
2004
2009

Where Does My Water Come From?

The customers of Great Oaks are fortunate to have water supplied from very pristine groundwater aquifers underlying this valley. All of our water is pumped from 15 wells (not surface water) located throughout our service area. You never know, you may live next door to one of our wells.

Drinking Water Source Assessments

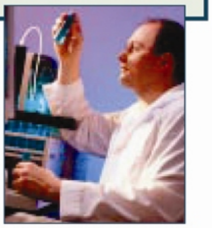
Great Oaks Water conducted a Drinking Water Source Assessment for all wells in 2000 to determine potential sources of contamination. Assessments were performed throughout 2000, in accordance with Safe Drinking Water Act requirements. The Assessments indicate that the wells may be vulnerable to contamination from the following sources: septic systems, sewer collection systems serving nearby single family residential housing, nearby agricultural wells, gas stations, parks, highways and their related activities, nearby computer related manufacturing facilities, roads, streets, parking lots, railroads, spreading basins, storm drain discharge, crops, illegal activities, unauthorized dumping, non-regulated tanks, photo processing/printing, monitoring wells. All Great Oaks Water Company wells are constructed to minimize the influence of these potential contaminants under the approval of the California Department of Health Services. A copy of the Assessment is available for viewing at the Department of Health Services Drinking Water Program Office located at 2151 Berkeley Way, Berkeley, California, or at Great Oaks Water Company located at 15 Great Oaks Blvd., Suite 100, in San Jose.

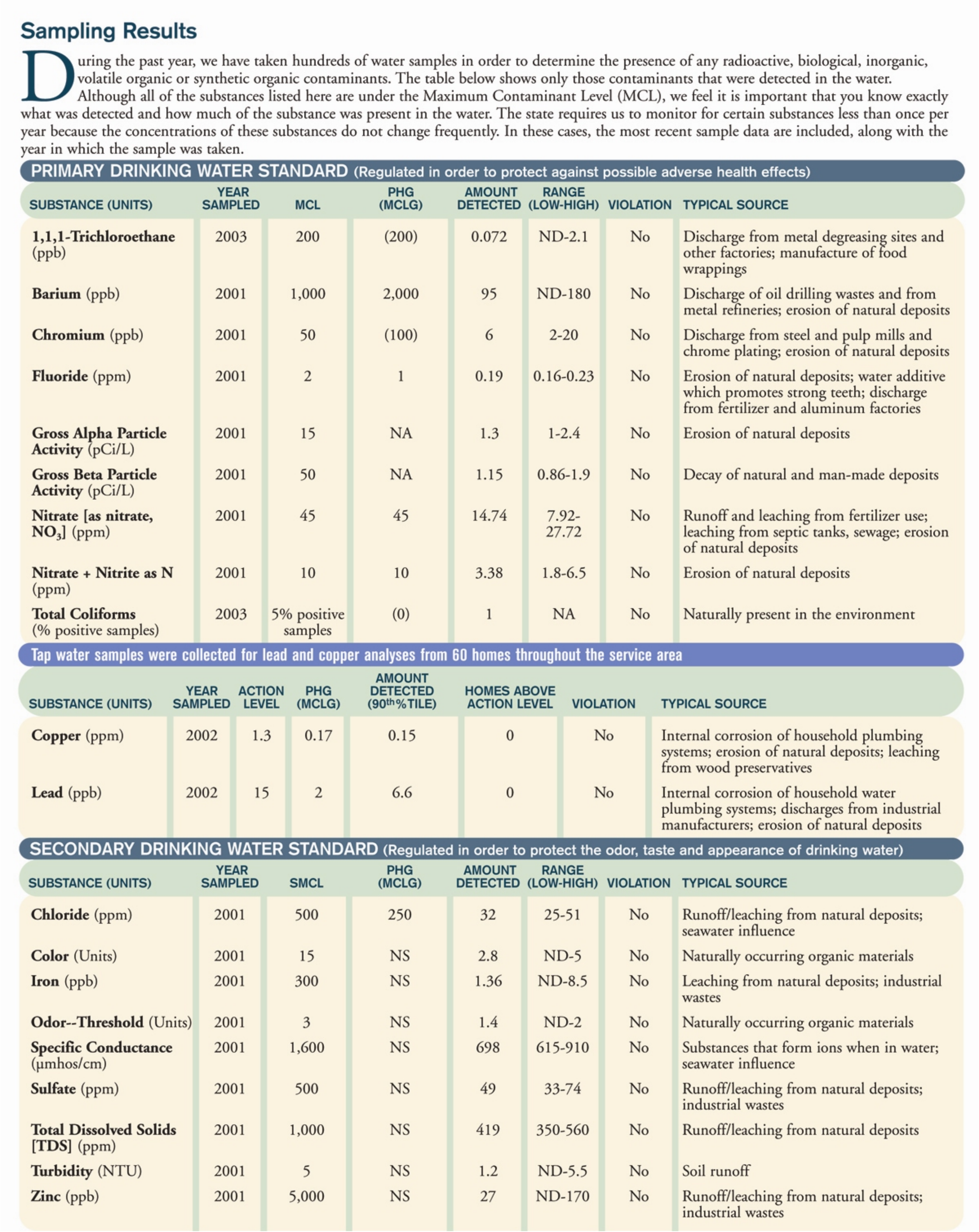
Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Monitoring of source water and/or finished water indicates the presence of these organisms. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.





Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

PRIMARY DRINKING WATER STANDARD (Regulated in order to protect against possible adverse health effects)

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	PHG (MCLG)	AMOUNT DETECTED	RANGE (LOW-HIGH)	VIOLATION	TYPICAL SOURCE
1,1,1-Trichloroethane (ppb)	2003	200	(200)	0.072	ND-2.1	No	Discharge from metal degreasing sites and other factories; manufacture of food wrappings
Barium (ppb)	2001	1,000	2,000	95	ND-180	No	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (ppb)	2001	50	(100)	6	2-20	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2001	2	1	0.19	0.16-0.23	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particle Activity (pCi/L)	2001	15	NA	1.3	1-2.4	No	Erosion of natural deposits
Gross Beta Particle Activity (pCi/L)	2001	50	NA	1.15	0.86-1.9	No	Decay of natural and man-made deposits
Nitrate [as nitrate, NO_3] (ppm)	2001	45	45	14.74	7.92-27.72	No	Runoff and leaching from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate + Nitrite as N (ppm)	2001	10	10	3.38	1.8-6.5	No	Erosion of natural deposits
Total Coliforms (% positive samples)	2003	5% positive samples	(0)	1	NA	No	Naturally present in the environment

Tap water samples were collected for lead and copper analyses from 60 homes throughout the service area

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	PHG (MCLG)	AMOUNT DETECTED (90th%TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2002	1.3	0.17	0.15	0	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2002	15	2	6.6	0	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY DRINKING WATER STANDARD (Regulated in order to protect the odor, taste and appearance of drinking water)

SUBSTANCE (UNITS)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE (LOW-HIGH)	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2001	500	250	32	25-51	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2001	15	NS	2.8	ND-5	No	Naturally occurring organic materials
Iron (ppb)	2001	300	NS	1.36	ND-8.5	No	Leaching from natural deposits; industrial wastes
Odor--Threshold (Units)	2001	3	NS	1.4	ND-2	No	Naturally occurring organic materials
Specific Conductance (µmhos/cm)	2001	1,600	NS	698	615-910	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2001	500	NS	49	33-74	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids [TDS] (ppm)	2001	1,000	NS	419	350-560	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2001	5	NS	1.2	ND-5.5	No	Soil runoff
Zinc (ppb)	2001	5,000	NS	27	ND-170	No	Runoff/leaching from natural deposits; industrial wastes

UNREGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	AMOUNT DETECTED	RANGE (LOW-HIGH)	TYPICAL SOURCE
Chloromethane (ppb)	2002	0.3	ND-0.6	Naturally occurring organic materials

OTHER SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	AMOUNT DETECTED	RANGE (LOW-HIGH)	TYPICAL SOURCE
Alkalinity (ppm)	2003	269	240-350	Erosion of natural deposits
Calcium (ppm)	2001	57	42-87	Erosion of natural deposits
Chromium, Hexavalent (ppb)	2002	5	2-11	Erosion of natural deposits
Hardness as $CaCO_3$ (ppm)	2001	317	263-452	Erosion of natural deposits
Magnesium (ppm)	2001	42	33-57	Erosion of natural deposits
pH (Units)	2003	7.6	7.45-7.79	
Sodium (ppm)	2001	30	22-35	Erosion of natural deposits
Vanadium (ppb)	2002	0.7	ND-4.8	Erosion of natural deposits

Contaminants That May Be Present in Source Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. EPA and the California Department of Health Services (CDHS) prescribe regulations that limit the amount of certain substances in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some substances. The presence of contaminants does not necessarily indicate that the water poses a health risk. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Table Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCL) are set to protect the odor, taste and appearance of drinking water.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

NA: Not applicable

ND: Not detected

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

pCi/L (picocuries per liter): A measure of radioactivity.

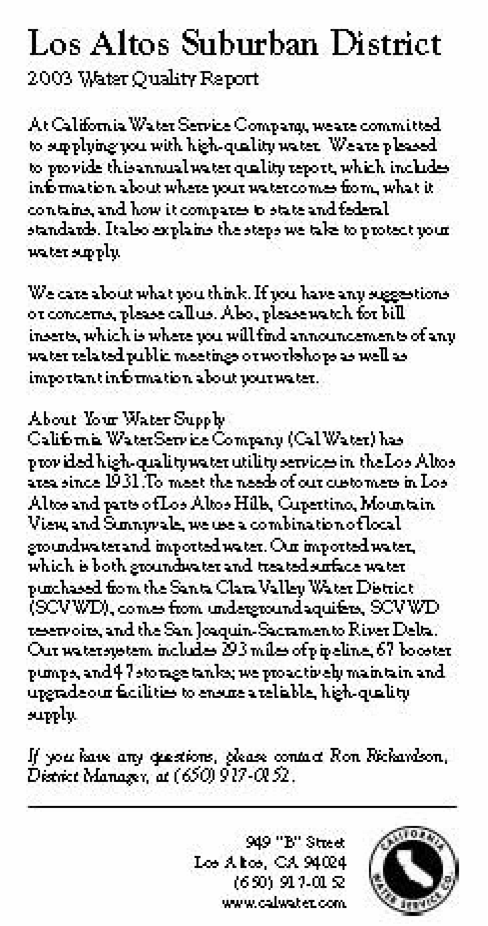
PDWS (Primary Drinking Water Standard): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

µmhos/cm (micromhos per centimeter): A measure of electrical conductance.



Los Altos Suburban District

2003 Water Quality Report

At California Water Service Company, we are committed to supplying you with high-quality water. We are pleased to provide this annual water quality report, which includes information about where your water comes from, what it contains, and how it compares to state and federal standards. It also explains the steps we take to protect your water supply.

We care about what you think. If you have any suggestions or concerns, please call us. Also, please watch for bill inserts, which is where you will find announcements of any water related public meetings or workshops as well as important information about your water.

About Your Water Supply
California Water Service Company (Cal Water) has provided high-quality water utility services in the Los Altos area since 1931. To meet the needs of our customers in Los Altos and parts of Los Altos Hills, Cupertino, Mountain View, and Sunnyvale, we use a combination of local groundwater and imported water. Our imported water, which is both groundwater and treated surface water purchased from the Santa Clara Valley Water District (SCVWD), comes from underground aquifers, SCVWD reservoirs, and the San Joaquin-Sacramento River Delta. Our water system includes 293 miles of pipeline, 67 booster pumps, and 47 storage tanks; we proactively maintain and upgrade our facilities to ensure a reliable, high-quality supply.

If you have any questions, please contact Ron Richardson, District Manager, at (650) 917-0152.

---

949 "B" Street
Los Altos, CA 94024
(650) 917-0152
www.calwater.com

Our Commitment to Our Customers

All of us at California Water Service Company appreciate having the opportunity to serve you, our valued customer. We know that water quality is important to you, and we are committed to providing water that meets or surpasses all water quality standards. Toward that end, our team of leading water quality experts vigilantly monitors our supply and maintains a state-of-the-art water quality laboratory. And we are always looking for opportunities to improve our operations. In fact, our mission is to be *the* leader in providing communities and customers with traditional and innovative utility services.

In order to ensure that tap water is safe to drink, USEPA and the California Department of Health Services (DHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

2003 Water Quality Report for Los Altos

General Information About Water

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

MICROBIAL CONTAMINANTS, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

INORGANIC CONTAMINANTS, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

PESTICIDES and HERBICIDES, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

ORGANIC CHEMICAL CONTAMINANTS, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

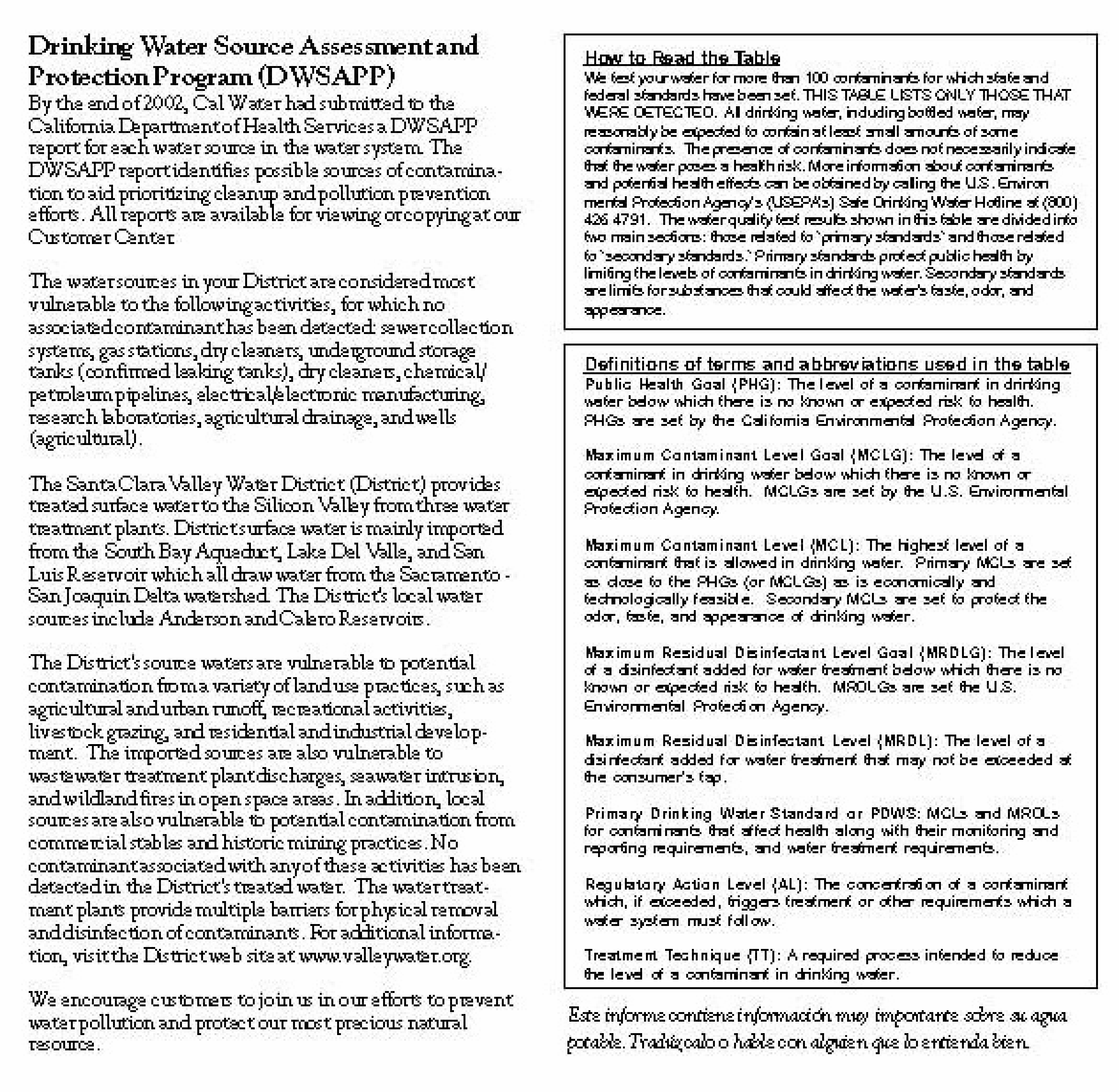
RADIOACTIVE CONTAMINANTS, which can be naturally-occurring or be the result of oil and gas production and mining activities.

What About Radon?

Radon is a radioactive gas found throughout the United States that you can't see, taste, or smell. Cal Water tested for radon in the water and detected radon in the finished water supply at levels of 260 to 605 pCi/L in the samples tested. There is no federal regulation for radon levels in drinking water at this time. If you are concerned about radon in your home and would like additional information, contact the EPA's Radon Hotline (800-SOS-RADON).

Cal Water is coordinating with state and federal agencies to enhance the security of our water supplies. Please report any suspicious activities near water facilities to us immediately.

Appendix E



Drinking Water Source Assessment and Protection Program (DWSAPP)

By the end of 2002, Cal Water had submitted to the California Department of Health Services a DWSAPP report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid prioritizing cleanup and pollution prevention efforts. All reports are available for viewing or copying at our Customer Center.

The water sources in your District are considered most vulnerable to the following activities, for which no associated contaminant has been detected: sewer collection systems, gas stations, dry cleaners, underground storage tanks (confirmed leaking tanks), dry cleaners, chemical/petroleum pipelines, electrical/electronic manufacturing, research laboratories, agricultural drainage, and wells (agricultural).

The Santa Clara Valley Water District (District) provides treated surface water to the Silicon Valley from three water treatment plants. District surface water is mainly imported from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir which all draw water from the Sacramento - San Joaquin Delta watershed. The District's local water sources include Anderson and Calero Reservoirs.

The District's source waters are vulnerable to potential contamination from a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. The imported sources are also vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildland fires in open space areas. In addition, local sources are also vulnerable to potential contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in the District's treated water. The water treatment plants provide multiple barriers for physical removal and disinfection of contaminants. For additional information, visit the District web site at www.valleywater.org.

We encourage customers to join us in our efforts to prevent water pollution and protect our most precious natural resource.

How to Read the Table

We test your water for more than 100 contaminants for which state and federal standards have been set. THIS TABLE LISTS ONLY THOSE THAT WERE DETECTED. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's (USEPA's) Safe Drinking Water Hotline at (800) 426 4791. The water quality test results shown in this table are divided into two main sections: those related to `primary standards` and those related to `secondary standards.` Primary standards protect public health by limiting the levels of contaminants in drinking water. Secondary standards are limits for substances that could affect the water's taste, odor, and appearance.

Definitions of terms and abbreviations used in the table

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set the U.S. Environmental Protection Agency.

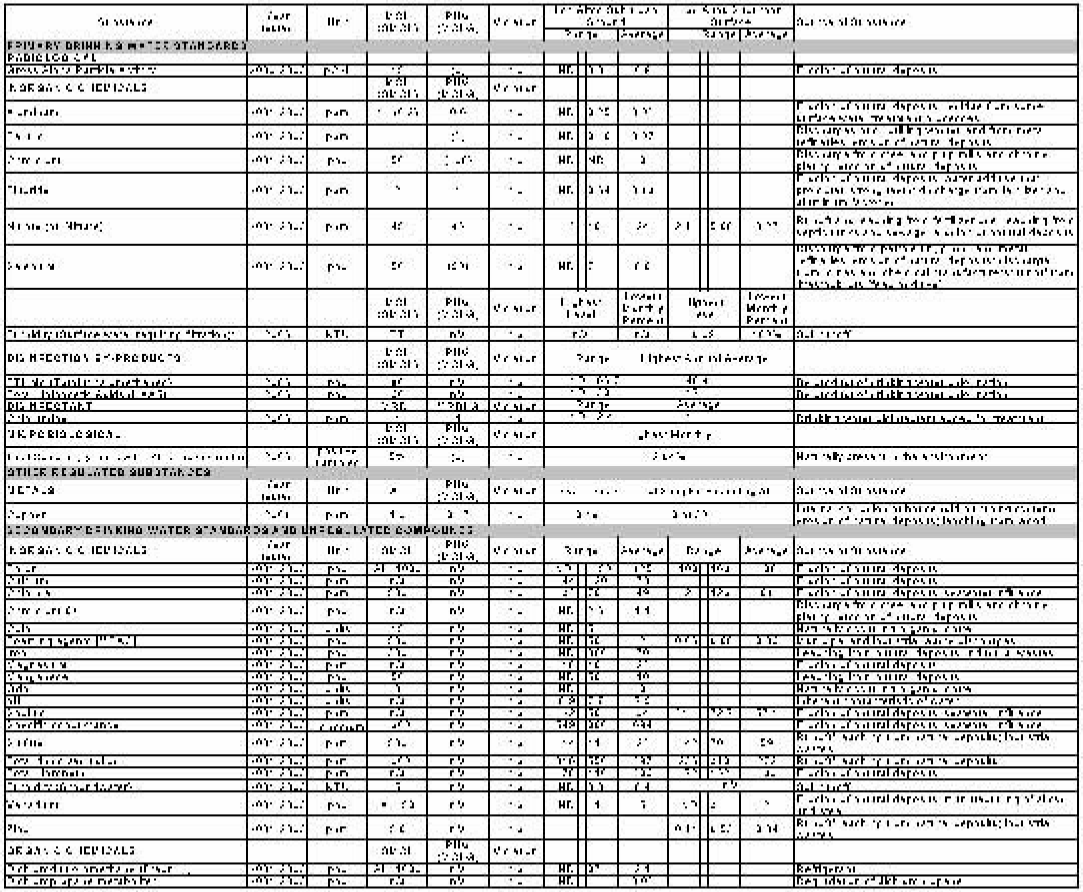
Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

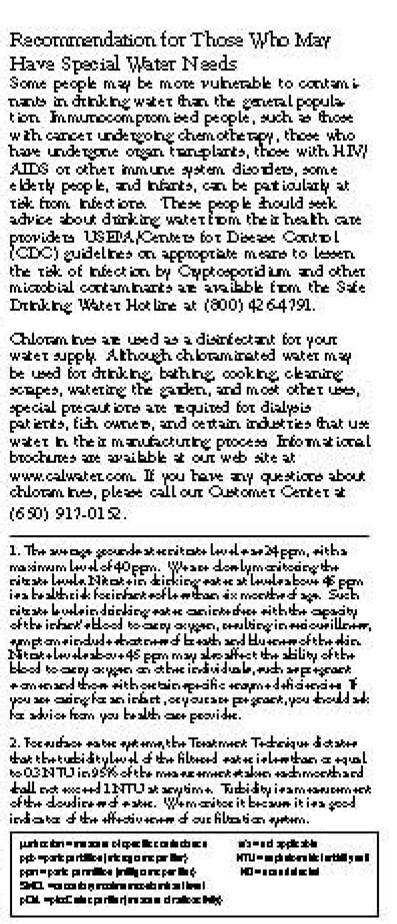
Primary Drinking Water Standard or PDWS: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.





Recommendation for Those Who May Have Special Water Needs

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly people, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Chloramines are used as a disinfectant for your water supply. Although chloraminated water may be used for drinking, bathing, cooking, cleaning scrapes, watering the garden, and most other uses, special precautions are required for dialysis patients, fish owners, and certain industries that use water in their manufacturing process. Informational brochures are available at our web site at www.calwater.com. If you have any questions about chloramines, please call our Customer Center at (650) 917-0152.

---

1. The average groundwater nitrate level was 24 ppm, with a maximum level of 40 ppm. We are closely monitoring the nitrate levels. Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from you health care provider.

2. For surface water systems, the Treatment Technique dictates that the turbidity level of the filtered water is less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity is a measurement of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

µmho/cm = measure of specific conductance
ppb = parts per billion (micrograms per liter)
ppm = parts per million (milligrams per liter)
SMCL = secondary maximum contaminant level
pCi/L = picoCuries per liter (measure of radioactivity)
n/a = not applicable
NTU = nephelometric turbidity unit
ND = none detected

Our Commitment to Our Customers

All of us at California Water Service Company appreciate having the opportunity to serve you, our valued customer. We know that water quality is important to you, and we are committed to providing water that meets or surpasses all water quality standards. Toward that end, our team of leading water quality experts vigilantly monitors our supply and maintains a state-of-the-art water quality laboratory. And we are always looking for opportunities to improve our operations. In fact, our mission is to be *the* leader in providing communities and customers with traditional and innovative utility services.

In order to ensure that tap water is safe to drink, USEPA and the California Department of Health Services (DHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

2003 Water Quality Report for Los Altos

General Information About Water

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

MICROBIAL CONTAMINANTS, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

INORGANIC CONTAMINANTS, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

PESTICIDES and HERBICIDES, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

ORGANIC CHEMICAL CONTAMINANTS, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

RADIOACTIVE CONTAMINANTS, which can be naturally-occurring or be the result of oil and gas production and mining activities.

What About Radon?

Radon is a radioactive gas found throughout the United States that you can't see, taste, or smell. Cal Water tested for radon in the water and detected radon in the finished water supply at levels of 260 to 605 pCi/L in the samples tested. There is no federal regulation for radon levels in drinking water at this time. If you are concerned about radon in your home and would like additional information, contact the EPA's Radon Hotline (800-SOS-RADON).

Cal Water is coordinating with state and federal agencies to enhance the security of our water supplies. Please report any suspicious activities near water facilities to us immediately.

Drinking Water Source Assessment and Protection Program (DWSAPP)

By the end of 2002, Cal Water had submitted to the California Department of Health Services a DWSAPP report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid prioritizing cleanup and pollution prevention efforts. All reports are available for viewing or copying at our Customer Center.

The water sources in your District are considered most vulnerable to the following activities, for which no associated contaminant has been detected: sewer collection systems, gas stations, dry cleaners, underground storage tanks (confirmed leaking tanks), dry cleaners, chemical/petroleum pipelines, electrical/electronic manufacturing, research laboratories, agricultural drainage, and wells (agricultural).

The Santa Clara Valley Water District (District) provides treated surface water to the Silicon Valley from three water treatment plants. District surface water is mainly imported from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir which all draw water from the Sacramento - San Joaquin Delta watershed. The District's local water sources include Anderson and Calero Reservoirs.

The District's source waters are vulnerable to potential contamination from a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. The imported sources are also vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildland fires in open space areas. In addition, local sources are also vulnerable to potential contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in the District's treated water. The water treatment plants provide multiple barriers for physical removal and disinfection of contaminants. For additional information, visit the District web site at www.valleywater.org.

We encourage customers to join us in our efforts to prevent water pollution and protect our most precious natural resource.

How to Read the Table

We test your water for more than 100 contaminants for which state and federal standards have been set. THIS TABLE LISTS ONLY THOSE THAT WERE DETECTED. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's (USEPA's) Safe Drinking Water Hotline at (800) 426 4791. The water quality test results shown in this table are divided into two main sections: those related to `primary standards` and those related to `secondary standards.` Primary standards protect public health by limiting the levels of contaminants in drinking water. Secondary standards are limits for substances that could affect the water's taste, odor, and appearance.

Definitions of terms and abbreviations used in the table

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set the U.S. Environmental Protection Agency.

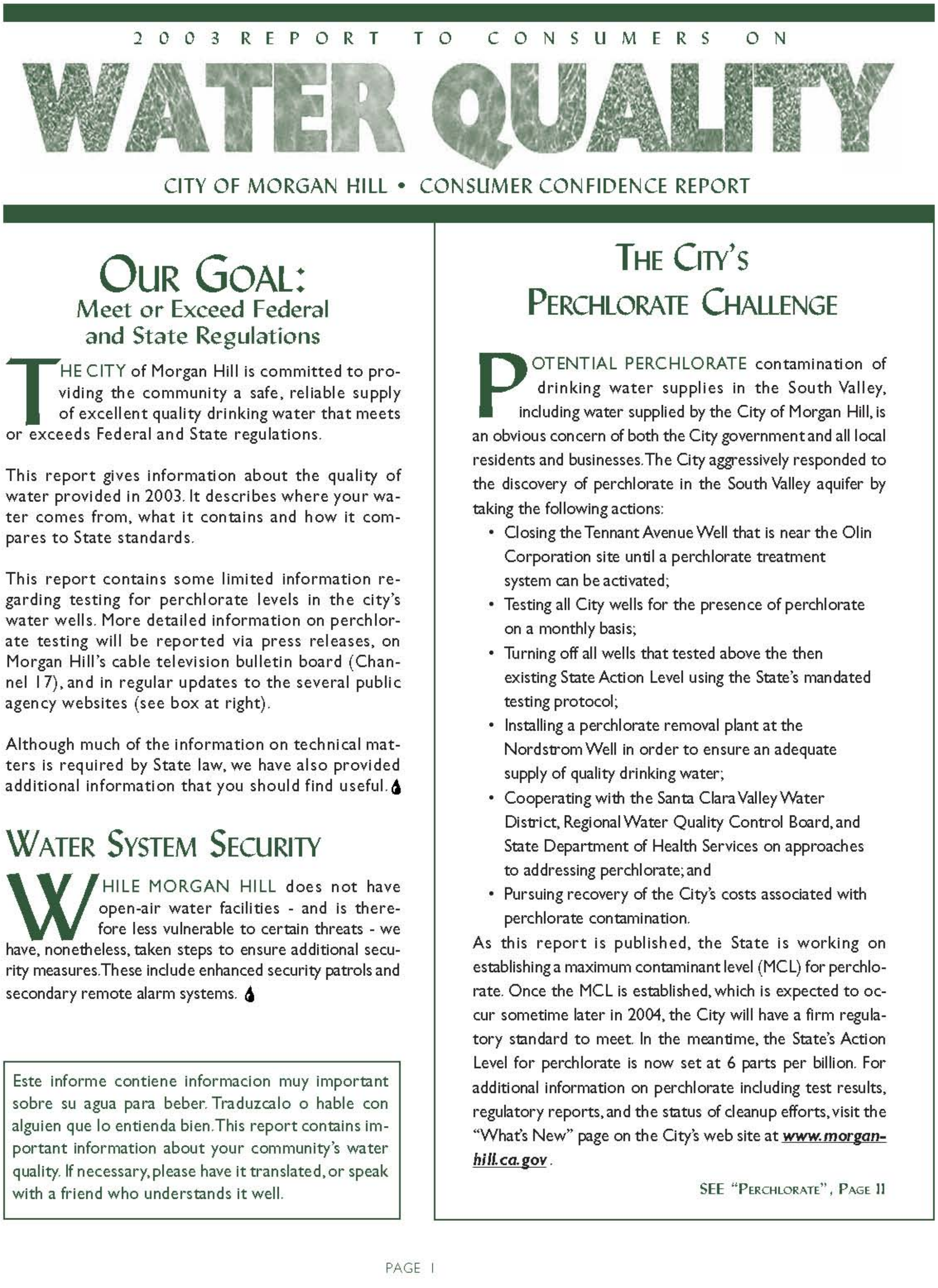
Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Primary Drinking Water Standard or PDWS: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.



2003 REPORT TO CONSUMERS ON

WATER QUALITY

CITY OF MORGAN HILL • CONSUMER CONFIDENCE REPORT

OUR GOAL:

Meet or Exceed Federal and State Regulations

THE CITY of Morgan Hill is committed to providing the community a safe, reliable supply of excellent quality drinking water that meets or exceeds Federal and State regulations.

This report gives information about the quality of water provided in 2003. It describes where your water comes from, what it contains and how it compares to State standards.

This report contains some limited information regarding testing for perchlorate levels in the city's water wells. More detailed information on perchlorate testing will be reported via press releases, on Morgan Hill's cable television bulletin board (Channel 17), and in regular updates to the several public agency websites (see box at right).

Although much of the information on technical matters is required by State law, we have also provided additional information that you should find useful.

WATER SYSTEM SECURITY

WHILE MORGAN HILL does not have open-air water facilities - and is therefore less vulnerable to certain threats - we have, nonetheless, taken steps to ensure additional security measures. These include enhanced security patrols and secondary remote alarm systems.

Este informe contiene informacion muy important sobre su agua para beber. Traduzcalo o hable con alguien que lo entienda bien. This report contains important information about your community's water quality. If necessary, please have it translated, or speak with a friend who understands it well.

THE CITY'S PERCHLORATE CHALLENGE

POTENTIAL PERCHLORATE contamination of drinking water supplies in the South Valley, including water supplied by the City of Morgan Hill, is an obvious concern of both the City government and all local residents and businesses. The City aggressively responded to the discovery of perchlorate in the South Valley aquifer by taking the following actions:

- Closing the Tennant Avenue Well that is near the Olin Corporation site until a perchlorate treatment system can be activated;
- Testing all City wells for the presence of perchlorate on a monthly basis;
- Turning off all wells that tested above the then existing State Action Level using the State's mandated testing protocol;
- Installing a perchlorate removal plant at the Nordstrom Well in order to ensure an adequate supply of quality drinking water;
- Cooperating with the Santa Clara Valley Water District, Regional Water Quality Control Board, and State Department of Health Services on approaches to addressing perchlorate; and
- Pursuing recovery of the City's costs associated with perchlorate contamination.

As this report is published, the State is working on establishing a maximum contaminant level (MCL) for perchlorate. Once the MCL is established, which is expected to occur sometime later in 2004, the City will have a firm regulatory standard to meet. In the meantime, the State's Action Level for perchlorate is now set at 6 parts per billion. For additional information on perchlorate including test results, regulatory reports, and the status of cleanup efforts, visit the "What's New" page on the City's web site at ***www.morgan-hill.ca.gov***.

SEE "PERCHLORATE", PAGE 11

"PERCHLORATE", FROM PAGE I

PERCHLORATE SURCHARGE IMPOSED

All of the actions described above have added significantly to the City's costs of operating the water system. The City is expected to have spent $1.4 million on perchlorate-related costs by the end of June 2004 and a total of $3.2 million by June 2007. These significant costs have threatened the financial stability of the City's water fund. In order to address this potential shortfall, the City has adopted a series of 5% surcharges on water fees. The 5% surcharge is needed solely to pay for the City's perchlorate-related costs. Perchlorate surcharge revenues will be accounted for separately and spent only on perchlorate-related costs. The first 5% surcharge went into effect April 1, 2004 with additional 5% surcharges effective January 1, of 2005, 2006, and 2007.

The need for future surcharges will be evaluated annually. Any amount determined to be in excess of the amount needed shall be refunded to customers. In addition, any repayments the City receives from any source to compensate the City for perchlorate-related costs will be credited to the perchlorate account in the Water Fund and shall also be refunded to customers if the repayments are determined to be in excess of the City's perchlorate-related costs.

A WORD ABOUT CHEMICALS & ORGANISMS

HERE'S A BRIEF description of chemicals and organisms, and how the City of Morgan Hill monitors, tests, and treats for them:

Methyl Tertiary-Butyl Ether (MTBE): Added to gasoline either seasonally or year round in many parts of the United States to increase octane levels and reduce carbon monoxide and ozone levels in the air. In California, it has been added to gasoline since January 1996. The City of Morgan Hill has tested quarterly for MTBE in its 13 wells. No MTBE has been detected.

Lead and Copper Testing: In 1991, the EPA adopted the Lead and Copper Rule which requires all cities, including Morgan Hill, to perform lead and copper testing. The City's public water system does not have detectable lev-

SEE "CHEMICALS", PAGE IV

WATER SOURCES:

MORGAN HILL is located in South Santa Clara County, situated between the Coyote and Llagas underground aquifers. These aquifers are the source of Morgan Hill's water supply.

The City currently operates 13 deep water wells located throughout the City. In 2003, these 13 wells supplied 2,518 million gallons of water for 10,841 homes and businesses in Morgan Hill. After the water comes out of these wells, it is treated with chlorine disinfectant to protect against microbial contaminants.

An assessment of the drinking water sources for the City of Morgan Hill was completed in September of 2002. The ground-water source is considered to be most vulnerable to the following activities associated with contaminants detected in ground water: animal feeding operations, and low density septic systems (occurrence of nitrate in groundwater.)

In addition, the source is considered most vulnerable to these activities, for which no associated contaminant has been detected: irrigated crops, grazing and animal operations and agricultural/irrigation wells, gas stations, dry cleaners, animal feeding operations, repair shops, sewer collection systems and pesticide/fertilizer/petroleum storage.

A copy of the complete assessment is available at the Department of Health Services, Drinking Water Field Operations Branch at 2151 Berkeley Way, Room 458, Berkeley, California and at the City of Morgan Hill Public Works Department at 100 Edes Ct.

WATER QUALITY DATA:

THE TABLE (shown right) lists all the drinking water contaminants detected during the 2003 calendar year.

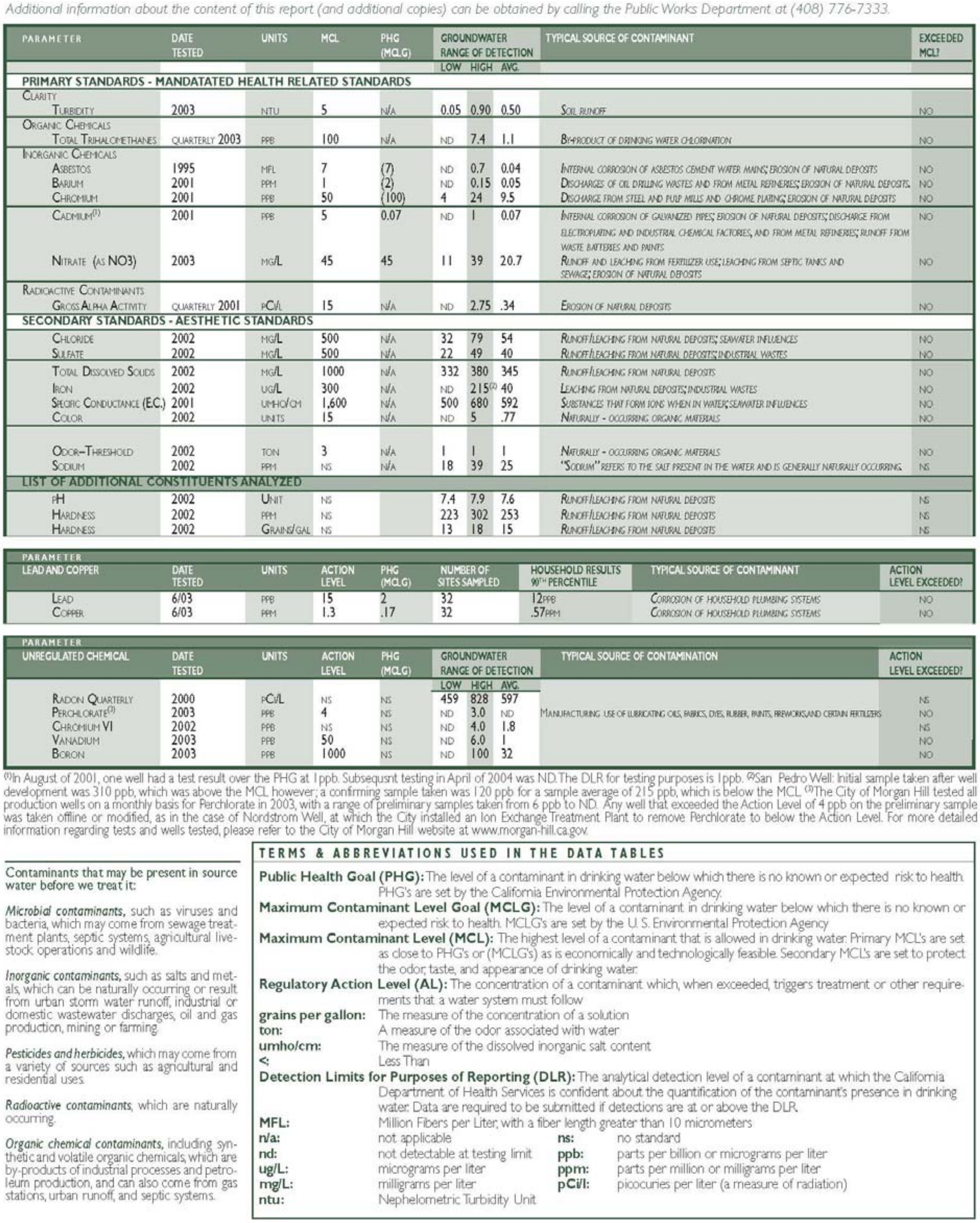
To ensure that tap water is safe to drink, the California Department of Health Services (DOHS) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Morgan Hill's water is treated in accordance with the Department's regulations.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Unless otherwise noted, the data presented in this table is from testing done over the period January 1 - December 31, 2003. The State allows the City to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data - though representative of the water quality - is more than a year old.

Appendix E



Additional information about the content of this report (and additional copies) can be obtained by calling the Public Works Department at (408) 776-7333.

PARAMETER	DATE TESTED	UNITS	MCL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINANT	EXCEEDED MCL?
					LOW	HIGH	AVG.		
PRIMARY STANDARDS - MANDATATED HEALTH RELATED STANDARDS									
Clarity									
Turbidity	2003	NTU	5	N/A	0.05	0.90	0.50	Soil runoff	NO
Organic Chemicals									
Total Trihalomethanes	Quarterly 2003	PPB	100	N/A	ND	7.4	1.1	By-product of drinking water chlorination	NO
Inorganic Chemicals									
Asbestos	1995	MFL	7	(7)	ND	0.7	0.04	Internal corrosion of asbestos cement water mains; erosion of natural deposits	NO
Barium	2001	PPM	1	(2)	ND	0.15	0.05	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.	NO
Chromium	2001	PPB	50	(100)	4	24	9.5	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits	NO
Cadmium(1)	2001	PPB	5	0.07	ND	1	0.07	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and from metal refineries; runoff from waste batteries and paints	NO
Nitrate (as NO3)	2003	MG/L	45	45	11	39	20.7	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits	NO
Radioactive Contaminants									
Gross Alpha Activity	Quarterly 2001	pCi/L	15	N/A	ND	2.75	.34	Erosion of natural deposits	NO
SECONDARY STANDARDS - AESTHETIC STANDARDS									
Chloride	2002	MG/L	500	N/A	32	79	54	Runoff/leaching from natural deposits; seawater influences	NO
Sulfate	2002	MG/L	500	N/A	22	49	40	Runoff/leaching from natural deposits; industrial wastes	NO
Total Dissolved Solids	2002	MG/L	1000	N/A	332	380	345	Runoff/leaching from natural deposits	NO
Iron	2002	UG/L	300	N/A	ND	215(2)	40	Leaching from natural deposits; industrial wastes	NO
Specific Conductance (E.C.)	2001	UMHO/CM	1,600	N/A	500	680	592	Substances that form ions when in water; seawater influences	NO
Color	2002	UNITS	15	N/A	ND	5	.77	Naturally - occurring organic materials	NO
Odor–Threshold	2002	TON	3	N/A	1	1	1	Naturally - occurring organic materials	NO
Sodium	2002	PPM	NS	N/A	18	39	25	"Sodium" refers to the salt present in the water and is generally naturally occurring.	NS
LIST OF ADDITIONAL CONSTITUENTS ANALYZED									
pH	2002	Unit	NS		7.4	7.9	7.6	Runoff/leaching from natural deposits	NS
Hardness	2002	PPM	NS		223	302	253	Runoff/leaching from natural deposits	NS
Hardness	2002	Grains/Gal	NS		13	18	15	Runoff/leaching from natural deposits	NS

PARAMETER LEAD AND COPPER	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	NUMBER OF SITES SAMPLED	HOUSEHOLD RESULTS 90TH PERCENTILE	TYPICAL SOURCE OF CONTAMINANT	ACTION LEVEL EXCEEDED?
Lead	6/03	PPB	15	2	32	12PPB	Corrosion of household plumbing systems	NO
Copper	6/03	PPM	1.3	.17	32	.57PPM	Corrosion of household plumbing systems	NO

PARAMETER UNREGULATED CHEMICAL	DATE TESTED	UNITS	ACTION LEVEL	PHG (MCLG)	GROUNDWATER RANGE OF DETECTION			TYPICAL SOURCE OF CONTAMINATION	ACTION LEVEL EXCEEDED?
					LOW	HIGH	AVG.		
Radon Quarterly	2000	pCi/L	NS	NS	459	828	597		NS
Perchlorate(3)	2003	PPB	4	NS	ND	3.0	ND	Manufacturing use of lubricating oils, fabrics, dyes, rubber, paints, fireworks, and certain fertilizers	NO
Chromium VI	2002	PPB	NS	NS	ND	4.0	1.8		NS
Vanadium	2003	PPB	50	NS	ND	6.0	1		NO
Boron	2003	PPB	1000	NS	ND	100	32		NO

(1)In August of 2001, one well had a test result over the PHG at 1ppb. Subsequsnt testing in April of 2004 was ND. The DLR for testing purposes is 1ppb. (2)San Pedro Well: Initial sample taken after well development was 310 ppb, which was above the MCL however; a confirming sample taken was 120 ppb for a sample average of 215 ppb, which is below the MCL. (3)The City of Morgan Hill tested all production wells on a monthly basis for Perchlorate in 2003, with a range of preliminary samples taken from 6 ppb to ND. Any well that exceeded the Action Level of 4 ppb on the preliminary sample was taken offline or modified, as in the case of Nordstrom Well, at which the City installed an Ion Exchange Treatment Plant to remove Perchlorate to below the Action Level. For more detailed information regarding tests and wells tested, please refer to the City of Morgan Hill website at www.morgan-hill.ca.gov.

Contaminants that may be present in source water before we treat it:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agricultural and residential uses.

Radioactive contaminants, which are naturally occurring.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban runoff, and septic systems.

TERMS & ABBREVIATIONS USED IN THE DATA TABLES

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U. S. Environmental Protection Agency.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to PHG's or (MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect the odor, taste, and appearance of drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

grains per gallon: The measure of the concentration of a solution

ton: A measure of the odor associated with water

umho/cm: The measure of the dissolved inorganic salt content

<: Less Than

Detection Limits for Purposes of Reporting (DLR): The analytical detection level of a contaminant at which the California Department of Health Services is confident about the quantification of the contaminant's presence in drinking water. Data are required to be submitted if detections are at or above the DLR.

MFL: Million Fibers per Liter, with a fiber length greater than 10 micrometers

n/a: not applicable

nd: not detectable at testing limit

ug/L: micrograms per liter

mg/L: milligrams per liter

ntu: Nephelometric Turbidity Unit

ns: no standard

ppb: parts per billion or micrograms per liter

ppm: parts per million or milligrams per liter

pCi/l: picocuries per liter (a measure of radiation)

"CHEMICALS", FROM PAGE II

els of lead and copper; however, these metals may leach into the water from home plumbing.

In June of 1997 the City completed Lead and Copper testing from inside homes under the guidance of the Department of Health Services. Results showed that the Copper levels were below the Federal Action Level of 1300 parts per billion (ppb), and the Lead levels were below the Federal Action Level of 15 parts per billion (ppb).

The City is on a three year cycle for testing of Lead and Copper determined by the primary testing performed at the first inception of the Lead and Copper Rule. The City completed its tri-annual sampling in June of 2003.

Nitrates: Nitrates in drinking water at levels above 45 mg/l is a health risk for infants below the age of six months. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness. Symptoms include shortness of breath and blueness of the skin.

High nitrate levels may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. Nitrate levels may rise quickly in short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider, or choose to use bottled water for mixing formula and juice for your baby. If you are pregnant, you should drink bottled water.

The City's water supply is below the MCL for nitrates. The City performs an average of 15 separate tests per week for nitrates alone to ensure a safe water supply.

Unregulated Contaminants: The City proactively monitors for unregulated contaminants. This helps the EPA and the California Department of Health Services determine where certain contaminants occur, and whether the contaminants need to be regulated.

Radon: The City tested its source waters for radon on a quarterly basis in 2000. Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through ground and into a home through cracks and holes in the foundations. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities.

Compared to Radon entering the home through the soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause an increased risk of stomach cancer.

If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program, or call EPA's Radon Hotline. 1-800-SOS-RADON).

WATER SAMPLING AND TESTING:

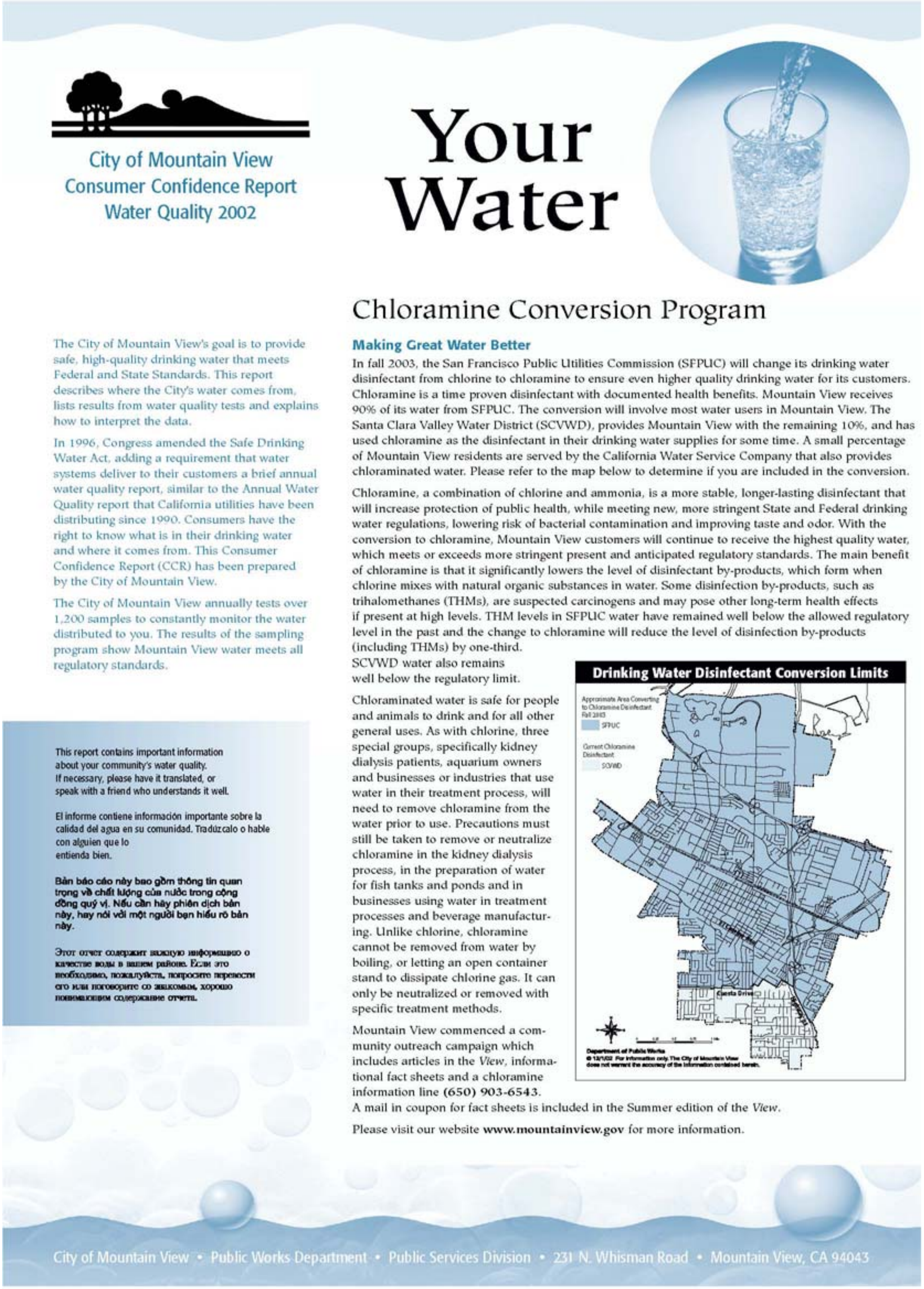
THE ANNUAL water sampling required by the State Department of Health Services consists of Bacteria (520 samples), Nitrate (780 samples), Turbidity (52 samples), and Trihalomethanes (32 samples) for a total of 1,384 samples from the 40 separate sample stations and source facilities located throughout the City's water distribution system. The City averages between 40 to 50 Bacteria samples a month. In November of 2003, one of the samples was found to be positive for coliform bacteria but confirming samples were negative.

Monthly bacteria samples are also taken at the 13 water wells from which the community gets its water supply.

WATER SYSTEM IMPROVEMENTS

THE CITY'S water system consists of 13 production wells, 110 miles of water mains, 9 pumping stations, and 10 reservoirs. This complex, interrelated system requires 24-hour monitoring and an extensive program of ongoing maintenance. Additionally, a 5-year program of capital improvements must be constantly updated to plan and fund new capacity and the replacement of outdated infrastructure. Recent improvements to the City's water system include:

- Completed construction of Edmundson Reservoir and completed redesign of Boy's Ranch Reservoir
- Completed San Pedro Well and Main II Well pump Stations
- Completed installation of water main at E. Main and UPRR crossing
- Initiated installation of new SCADA system (this computerized monitoring of water reservoir levels and pumping equipment operations throughout the entire water supply system improves efficiency and reporting)
- Completed design for rehabilitation of Jackson Oaks Booster Station
- Completed preliminary design of 16" water main between Church St. and Del Monte Ave.
- Completed design and installation of water main feeding Jackson Oaks tank



City of Mountain View
Consumer Confidence Report
Water Quality 2002

Your Water

The City of Mountain View's goal is to provide safe, high-quality drinking water that meets Federal and State Standards. This report describes where the City's water comes from, lists results from water quality tests and explains how to interpret the data.

In 1996, Congress amended the Safe Drinking Water Act, adding a requirement that water systems deliver to their customers a brief annual water quality report, similar to the Annual Water Quality report that California utilities have been distributing since 1990. Consumers have the right to know what is in their drinking water and where it comes from. This Consumer Confidence Report (CCR) has been prepared by the City of Mountain View.

The City of Mountain View annually tests over 1,200 samples to constantly monitor the water distributed to you. The results of the sampling program show Mountain View water meets all regulatory standards.

This report contains important information about your community's water quality. If necessary, please have it translated, or speak with a friend who understands it well.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Bản báo cáo này bao gồm thông tin quan trọng về chất lượng của nước trong cộng đồng quý vị. Nếu cần hãy phiên dịch bản này, hay nói với một người bạn hiểu rõ bản này.

Этот отчет содержит важную информацию о качестве воды в вашем районе. Если это необходимо, пожалуйста, попросите перевести его или поговорите со знакомым, хорошо понимающим содержание отчета.

Chloramine Conversion Program

Making Great Water Better

In fall 2003, the San Francisco Public Utilities Commission (SFPUC) will change its drinking water disinfectant from chlorine to chloramine to ensure even higher quality drinking water for its customers. Chloramine is a time proven disinfectant with documented health benefits. Mountain View receives 90% of its water from SFPUC. The conversion will involve most water users in Mountain View. The Santa Clara Valley Water District (SCVWD), provides Mountain View with the remaining 10%, and has used chloramine as the disinfectant in their drinking water supplies for some time. A small percentage of Mountain View residents are served by the California Water Service Company that also provides chloraminated water. Please refer to the map below to determine if you are included in the conversion.

Chloramine, a combination of chlorine and ammonia, is a more stable, longer-lasting disinfectant that will increase protection of public health, while meeting new, more stringent State and Federal drinking water regulations, lowering risk of bacterial contamination and improving taste and odor. With the conversion to chloramine, Mountain View customers will continue to receive the highest quality water, which meets or exceeds more stringent present and anticipated regulatory standards. The main benefit of chloramine is that it significantly lowers the level of disinfectant by-products, which form when chlorine mixes with natural organic substances in water. Some disinfection by-products, such as trihalomethanes (THMs), are suspected carcinogens and may pose other long-term health effects if present at high levels. THM levels in SFPUC water have remained well below the allowed regulatory level in the past and the change to chloramine will reduce the level of disinfection by-products (including THMs) by one-third. SCVWD water also remains well below the regulatory limit.

Chloraminated water is safe for people and animals to drink and for all other general uses. As with chlorine, three special groups, specifically kidney dialysis patients, aquarium owners and businesses or industries that use water in their treatment process, will need to remove chloramine from the water prior to use. Precautions must still be taken to remove or neutralize chloramine in the kidney dialysis process, in the preparation of water for fish tanks and ponds and in businesses using water in treatment processes and beverage manufacturing. Unlike chlorine, chloramine cannot be removed from water by boiling, or letting an open container stand to dissipate chlorine gas. It can only be neutralized or removed with specific treatment methods.

Mountain View commenced a community outreach campaign which includes articles in the *View*, informational fact sheets and a chloramine information line **(650) 903-6543**.

A mail in coupon for fact sheets is included in the Summer edition of the *View*.

Please visit our website **www.mountainview.gov** for more information.

Drinking Water Disinfectant Conversion Limits

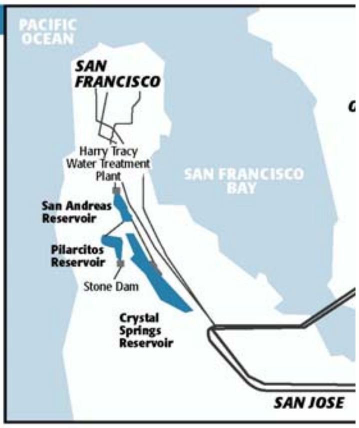
Approximate Area Converting to Chloramine Disinfectant Fall 2003
SFPUC
Current Chloramine Disinfectant
SCVWD
Cuesta Drive

Department of Public Works
© 12/1/02 For information only. The City of Mountain View does not warrant the accuracy of the information contained herein.

City of Mountain View • Public Works Department • Public Services Division • 231 N. Whisman Road • Mountain View, CA 94043

Mountain View's Water Supply

The City of Mountain View distributes over 4.2 billion gallons of fluoridated water annually to its customers from three separate sources. More than 90 percent of the City's water is treated surface water imported from the Sierra Nevada Mountains and purchased from the San Francisco Public Utilities Commission's Hetch Hetchy System. The remaining water is imported from the Sacramento-San Joaquin Delta and is purchased from the Santa Clara Valley Water District or is groundwater pumped from the deep aquifer through the City's water wells.



Water Quality Data

The table below provides representative analytical results of City of Mountain View water samples collected in 2002. The table contains the name of each substance, the highest level allowed by regulation, the amount detected, the usual sources of such contamination and a key to units of measurement. **Please note**: the simple presence of a substance does NOT necessarily indicate the drinking water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous.

To understand the table below, refer to the list and the glossary below and to the right.

SFPUC Water Quality Data 2002(1)(2)

For Systems receiving Bay Division Blend water and Hetch Hetchy and SVWTP water

Detected Contaminants	Unit	MCL (3)	PHG (4)(5) (MCLG)	Range	Average	Typical Sources in Drinking Water
Turbidity (SFPUC Treated Water)						
Turbidity(6)–Tesla Portal (Hetch Hetchy Water)	NTU	5(7)	N	0.20-.66	0.33	Soil run-off
Turbidity(6)–SVWTP	NTU	0.3(8)	N	0.06-0.18	0.08	Soil run-off
Organic Chemicals (City of Mountain View Treated Water)						
Total Trihalomethanes (TTHMs)	ppb	80(9)	N	42.8-62.4	50.1(9)	By-product of drinking water chlorination
Total Haloacetic Acids (HAAs)	ppb	60(9)	N	12.1-30.0	21.2(9)	By-product of drinking water chlorination
Microbiological (City of Mountain View Treated Water)						
Total Coliform	%	5(10)	0	0(10)	0(10)	Naturally present in the environment
Inorganic Chemicals (Source Waters)						
Arsenic(11)	ppb	50	N	<2 - 2	<2	Erosion of natural deposits, soil run-off
Chlorate(11)	ppb	NS	N	<20-27	<20	By-product of drinking water chlorination
Natural Fluoride(12)	ppm	2	1	<0.1-0.2	<0.1	Erosion of natural deposits
Inorganic Chemicals (City of Mountain View Treated Water)						
Chlorine	ppm	MRDL=4(20)	RDLG=4(20)	0.31-0.51	0.42	Drinking water disinfectant added for treatment
Organic Chemicals (SFPUC Treated Water)						
Total Trihalomethanes (TTHMs)(19)	ppb	80	N	47.9 - 50.1	48	By-product of drinking water chlorination
Total Haloacetic Acids (HAAs)(19)	ppb	60	N	18.1 - 33.6	24	By-product of drinking water chlorination
Total Haloacetonitriles (HANs)(12)	ppb	NS	N	1-6	3	By-product of drinking water chlorination
Total Haloketones (HKs)/Chloropicrin (CP)(12)	ppb	NS	N	0.5-7	2	By-product of drinking water chlorination
Total Aldehydes(13)	ppb	NS	N	8-18	12	By-product of drinking water chlorination
Total Organic Halides (TOX)(12)	ppb	NS	N	<110-173	131	By-product of drinking water chlorination
Lead & Copper Rule Study (City of MV Treated Water)	**Unit**	**AL (13)**	**PHG**	**Range**	**90th Percentile**	**Typical Sources in Drinking Water**
Copper (MV Treated Water)	ppb	1300	170	30-270	100(14)	Corrosion of household plumbing systems
Lead (MV Treated Water)	ppb	15	2	<2-24	8(15)	Corrosion of household plumbing systems

Secondary Standards–Source Water(11)	Unit	SMCL(3)	Range	Average
Iron	ppb	300	<100-140	<100
Chloride	ppm	500	<3-7	5
Specific Conductance	µS/cm	1600	13-340	214
Sulfate	ppm	500	0.7-25	17
Total Dissolved Solid (TDS)	ppm	1000	<5-190	114
Secondary Standards–Treated Water(16)				
Color	units	15	<6-24	<10
Odor	TON	3	<1	<1

Other constituents–Treated Water(16)(17)	Unit	SMCL(3)	Range	Average
Alkalinity (as CaCO3)	ppm	NS	13-120	66
Boron(18)	ppb	NS	<100-180	<100
Calcium	ppm	NS	4-31	18
Fluoride–City of Mountain View	ppm	NS	0.8-1.4	0.9
Hardness (as CaCO3)	ppm	NS	11-120	66
Magnesium	ppm	NS	<0.5-11	6
pH	Units	NS	8.6-9.4	9.0
Potassium	ppm	NS	<0.5-1.0	0.5
Silica	ppm	NS	5-6	5
Sodium	ppm	NS	3-22	18

Key

<	**Less than**
ppb	**Parts per billion**
ppm	**Parts per million**
NS	**No standard**
N	**None**
NTU	**Nephelometric Turbidity Unit (clarity of water)**
SVWTP	**Sunol Valley Water Treatment Plant**
µS/cm	**MicroSiemens/centimeter**
TON	**Threshold odor number**

(1) Set forth in 40 CFR Parts 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22 Section 116470.

(2) All results met State and Federal drinking water regulations.

(3) Maximum Contaminant Level (MCL) and Secondary Maximum Contaminant Level (SMCL) set by U.S. EPA/DHS.

(4) Public Health Goal (PHG) adopted by the State Office of Environmental Health Hazard Assessment (OEHHA) of the California EPA.

(5) Maximum Contaminant Level Goal (MCLG) set by U.S. EPA.

(6) Turbidity is the water clarity indicator; it also indicates the quality of the water and the treatment system efficiency.

(7) The turbidity standard for unfiltered supplies is 5 NTU.

(8) Filtered water turbidity must be less than 0.3 NTU 95% of the time. SVWTP met this standard 100% of the time.

(9) Compliance is based on 4-quarter running average from Disinfectant/Disinfection Byproducts Rule data in City of Mountain View treated water.

(10) Monthly positive samples in City of Mountain View treated water.

(11) Data obtained from Hetch Hetchy, Calaveras, and San Antonio Reservoirs.

(12) Based on Information Collection Rule data collected in 1998 at Alameda East Portal and SVWTP.

(13) Action Level (AL). The 90th percentile level of lead or copper must be less than the action level.

(14) In 2002, 0 out of 37 residences were over the copper Action Level at consumer taps.

(15) In 2002, 2 out of 37 residences were over the lead Action Level at consumer taps.

(16) Data obtained from Alameda East Portal, and SVWTP.

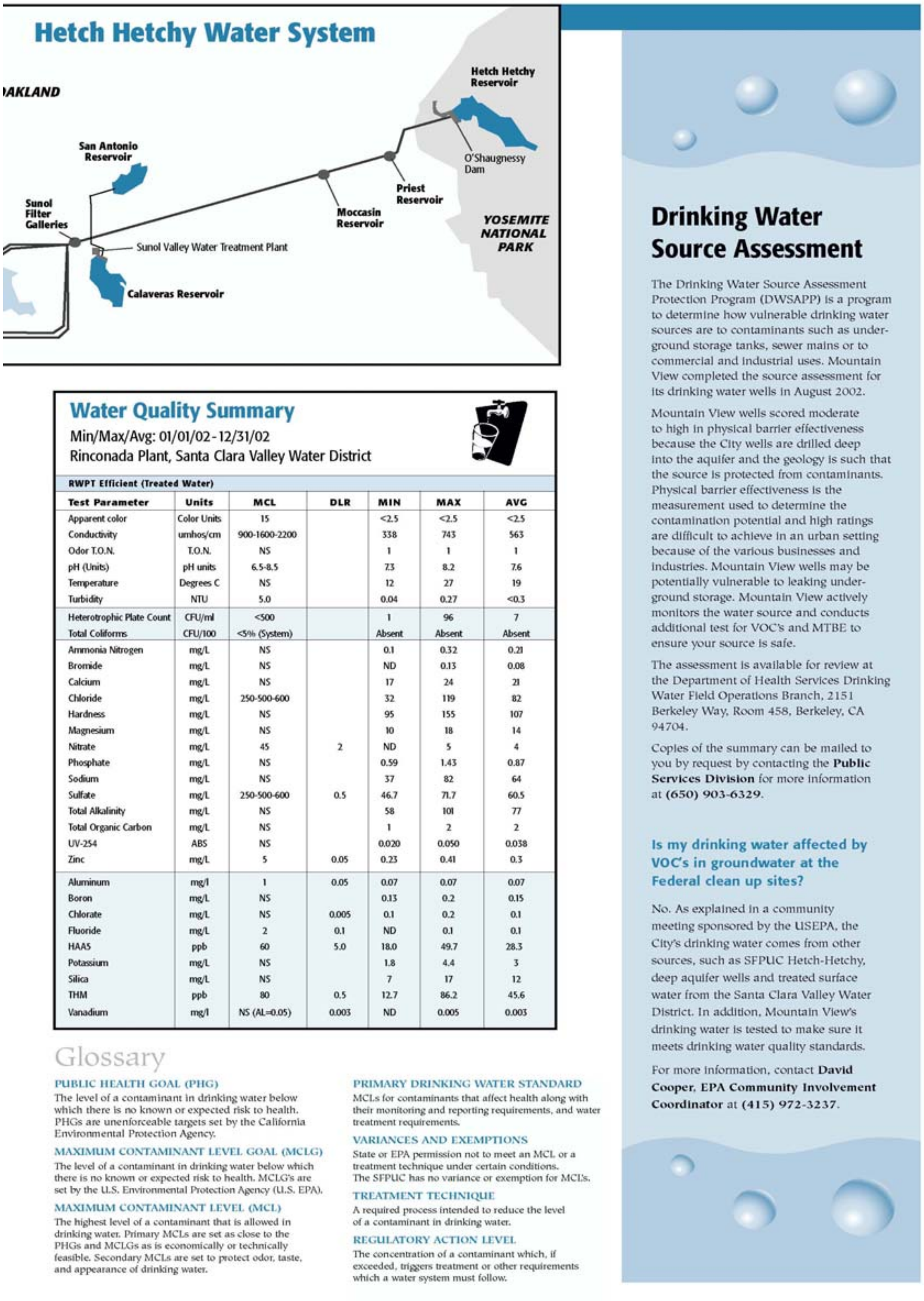
(17) Note that Chromium, perchlorate, and MTBE were not detected in the source or treated water.

(18) Data obtained from quarterly State UCMR monitoring at Hetch Hetchy, Calaveras, and San Antonio Reservoirs.

(19) Data obtained from 4-quarterly running annual average of Disinfectant/Disinfection by-product Rules (DBPs) monitoring for 8 locations in San Francisco Regional Water System.

(20) MRDL = Maximum Residual Disinfectant Level, MRDLG = Maximum Residual Disinfectant Level Goal.

Note: Additional water quality data may be obtained by calling the **City of Mountain View Public Services Division at (650) 903-6329.**


AKLAND
San Antonio Reservoir
Sunol Filter Galleries
Sunol Valley Water Treatment Plant
Calaveras Reservoir
Moccasin Reservoir
Priest Reservoir
Hetch Hetchy Reservoir
O'Shaugnessy Dam
YOSEMITE NATIONAL PARK

Hetch Hetchy Water System

Water Quality Summary

Min/Max/Avg: 01/01/02 - 12/31/02
Rinconada Plant, Santa Clara Valley Water District

RWPT Efficient (Treated Water)

Test Parameter	Units	MCL	DLR	MIN	MAX	AVG
Apparent color	Color Units	15		<2.5	<2.5	<2.5
Conductivity	umhos/cm	900-1600-2200		338	743	563
Odor T.O.N.	T.O.N.	NS		1	1	1
pH (Units)	pH units	6.5-8.5		7.3	8.2	7.6
Temperature	Degrees C	NS		12	27	19
Turbidity	NTU	5.0		0.04	0.27	<0.3
Heterotrophic Plate Count	CFU/ml	<500		1	96	7
Total Coliforms	CFU/100	<5% (System)		Absent	Absent	Absent
Ammonia Nitrogen	mg/L	NS		0.1	0.32	0.21
Bromide	mg/L	NS		ND	0.13	0.08
Calcium	mg/L	NS		17	24	21
Chloride	mg/L	250-500-600		32	119	82
Hardness	mg/L	NS		95	155	107
Magnesium	mg/L	NS		10	18	14
Nitrate	mg/L	45	2	ND	5	4
Phosphate	mg/L	NS		0.59	1.43	0.87
Sodium	mg/L	NS		37	82	64
Sulfate	mg/L	250-500-600	0.5	46.7	71.7	60.5
Total Alkalinity	mg/L	NS		58	101	77
Total Organic Carbon	mg/L	NS		1	2	2
UV-254	ABS	NS		0.020	0.050	0.038
Zinc	mg/L	5	0.05	0.23	0.41	0.3
Aluminum	mg/l	1	0.05	0.07	0.07	0.07
Boron	mg/L	NS		0.13	0.2	0.15
Chlorate	mg/L	NS	0.005	0.1	0.2	0.1
Fluoride	mg/L	2	0.1	ND	0.1	0.1
HAA5	ppb	60	5.0	18.0	49.7	28.3
Potassium	mg/L	NS		1.8	4.4	3
Silica	mg/L	NS		7	17	12
THM	ppb	80	0.5	12.7	86.2	45.6
Vanadium	mg/l	NS (AL=0.05)	0.003	ND	0.005	0.003

Glossary

PUBLIC HEALTH GOAL (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are unenforceable targets set by the California Environmental Protection Agency.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency (U.S. EPA).

MAXIMUM CONTAMINANT LEVEL (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs and MCLGs as is economically or technically feasible. Secondary MCLs are set to protect odor, taste, and appearance of drinking water.

PRIMARY DRINKING WATER STANDARD

MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

VARIANCES AND EXEMPTIONS

State or EPA permission not to meet an MCL or a treatment technique under certain conditions. The SFPUC has no variance or exemption for MCL's.

TREATMENT TECHNIQUE

A required process intended to reduce the level of a contaminant in drinking water.

REGULATORY ACTION LEVEL

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Drinking Water Source Assessment

The Drinking Water Source Assessment Protection Program (DWSAPP) is a program to determine how vulnerable drinking water sources are to contaminants such as underground storage tanks, sewer mains or to commercial and industrial uses. Mountain View completed the source assessment for its drinking water wells in August 2002.

Mountain View wells scored moderate to high in physical barrier effectiveness because the City wells are drilled deep into the aquifer and the geology is such that the source is protected from contaminants. Physical barrier effectiveness is the measurement used to determine the contamination potential and high ratings are difficult to achieve in an urban setting because of the various businesses and industries. Mountain View wells may be potentially vulnerable to leaking underground storage. Mountain View actively monitors the water source and conducts additional test for VOC's and MTBE to ensure your source is safe.

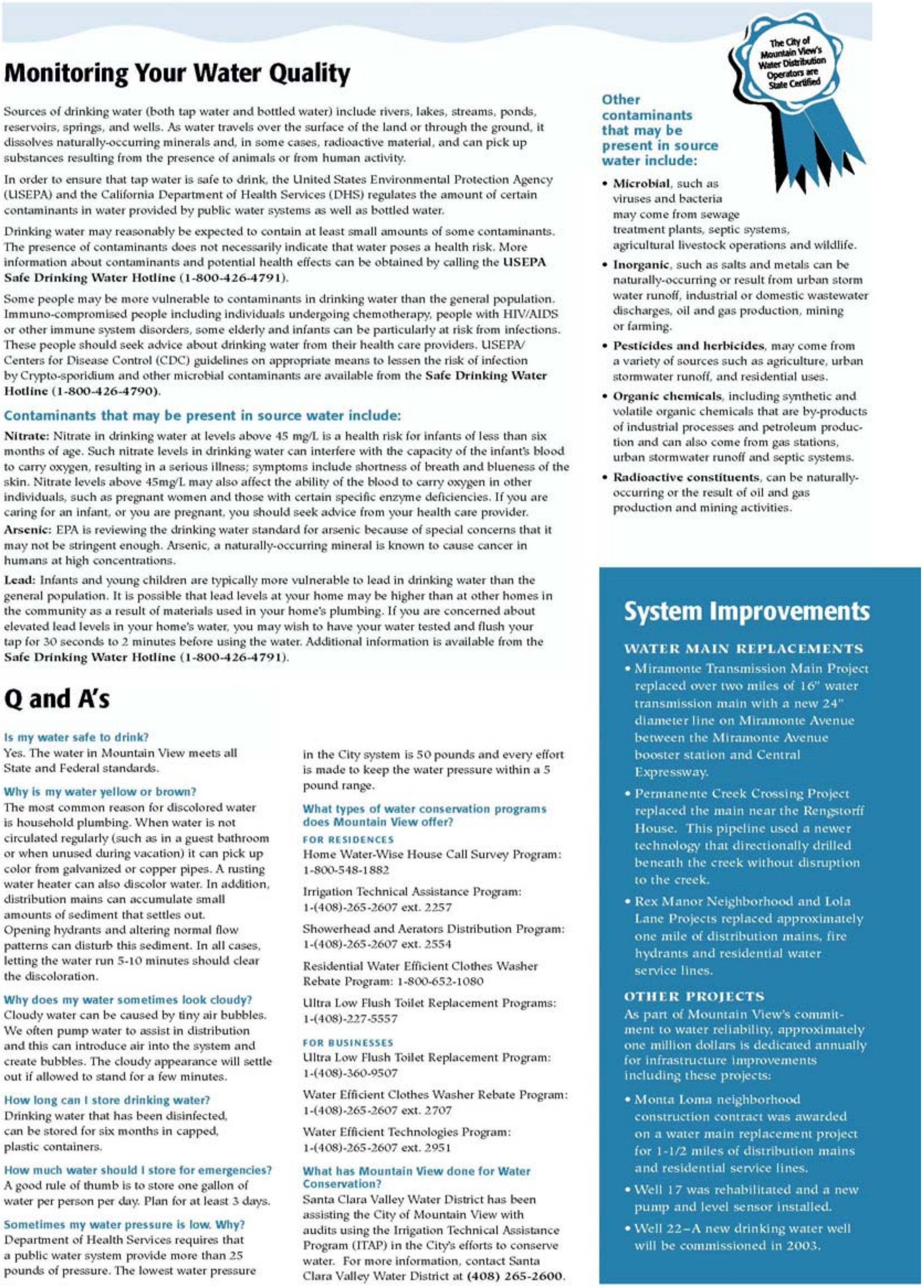
The assessment is available for review at the Department of Health Services Drinking Water Field Operations Branch, 2151 Berkeley Way, Room 458, Berkeley, CA 94704.

Copies of the summary can be mailed to you by request by contacting the **Public Services Division** for more information at **(650) 903-6329**.

Is my drinking water affected by VOC's in groundwater at the Federal clean up sites?

No. As explained in a community meeting sponsored by the USEPA, the City's drinking water comes from other sources, such as SFPUC Hetch-Hetchy, deep aquifer wells and treated surface water from the Santa Clara Valley Water District. In addition, Mountain View's drinking water is tested to make sure it meets drinking water quality standards.

For more information, contact **David Cooper, EPA Community Involvement Coordinator** at **(415) 972-3237**.



Monitoring Your Water Quality

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and the California Department of Health Services (DHS) regulates the amount of certain contaminants in water provided by public water systems as well as bottled water.

Drinking water may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **USEPA Safe Drinking Water Hotline (1-800-426-4791)**.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people including individuals undergoing chemotherapy, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/ Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Crypto-sporidium and other microbial contaminants are available from the **Safe Drinking Water Hotline (1-800-426-4790)**.

Contaminants that may be present in source water include:

Nitrate: Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should seek advice from your health care provider.

Arsenic: EPA is reviewing the drinking water standard for arsenic because of special concerns that it may not be stringent enough. Arsenic, a naturally-occurring mineral is known to cause cancer in humans at high concentrations.

Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using the water. Additional information is available from the **Safe Drinking Water Hotline (1-800-426-4791)**.

Q and A's

Is my water safe to drink?

Yes. The water in Mountain View meets all State and Federal standards.

Why is my water yellow or brown?

The most common reason for discolored water is household plumbing. When water is not circulated regularly (such as in a guest bathroom or when unused during vacation) it can pick up color from galvanized or copper pipes. A rusting water heater can also discolor water. In addition, distribution mains can accumulate small amounts of sediment that settles out. Opening hydrants and altering normal flow patterns can disturb this sediment. In all cases, letting the water run 5-10 minutes should clear the discoloration.

Why does my water sometimes look cloudy?

Cloudy water can be caused by tiny air bubbles. We often pump water to assist in distribution and this can introduce air into the system and create bubbles. The cloudy appearance will settle out if allowed to stand for a few minutes.

How long can I store drinking water?

Drinking water that has been disinfected, can be stored for six months in capped, plastic containers.

How much water should I store for emergencies?

A good rule of thumb is to store one gallon of water per person per day. Plan for at least 3 days.

Sometimes my water pressure is low. Why?

Department of Health Services requires that a public water system provide more than 25 pounds of pressure. The lowest water pressure in the City system is 50 pounds and every effort is made to keep the water pressure within a 5 pound range.

What types of water conservation programs does Mountain View offer?

FOR RESIDENCES

Home Water-Wise House Call Survey Program: 1-800-548-1882

Irrigation Technical Assistance Program: 1-(408)-265-2607 ext. 2257

Showerhead and Aerators Distribution Program: 1-(408)-265-2607 ext. 2554

Residential Water Efficient Clothes Washer Rebate Program: 1-800-652-1080

Ultra Low Flush Toilet Replacement Programs: 1-(408)-227-5557

FOR BUSINESSES

Ultra Low Flush Toilet Replacement Program: 1-(408)-360-9507

Water Efficient Clothes Washer Rebate Program: 1-(408)-265-2607 ext. 2707

Water Efficient Technologies Program: 1-(408)-265-2607 ext. 2951

What has Mountain View done for Water Conservation?

Santa Clara Valley Water District has been assisting the City of Mountain View with audits using the Irrigation Technical Assistance Program (ITAP) in the City's efforts to conserve water. For more information, contact Santa Clara Valley Water District at **(408) 265-2600**.

The City of Mountain View's Water Distribution Operators are State Certified

Other contaminants that may be present in source water include:

- **Microbial**, such as viruses and bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic**, such as salts and metals can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemicals**, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive constituents**, can be naturally-occurring or the result of oil and gas production and mining activities.

System Improvements

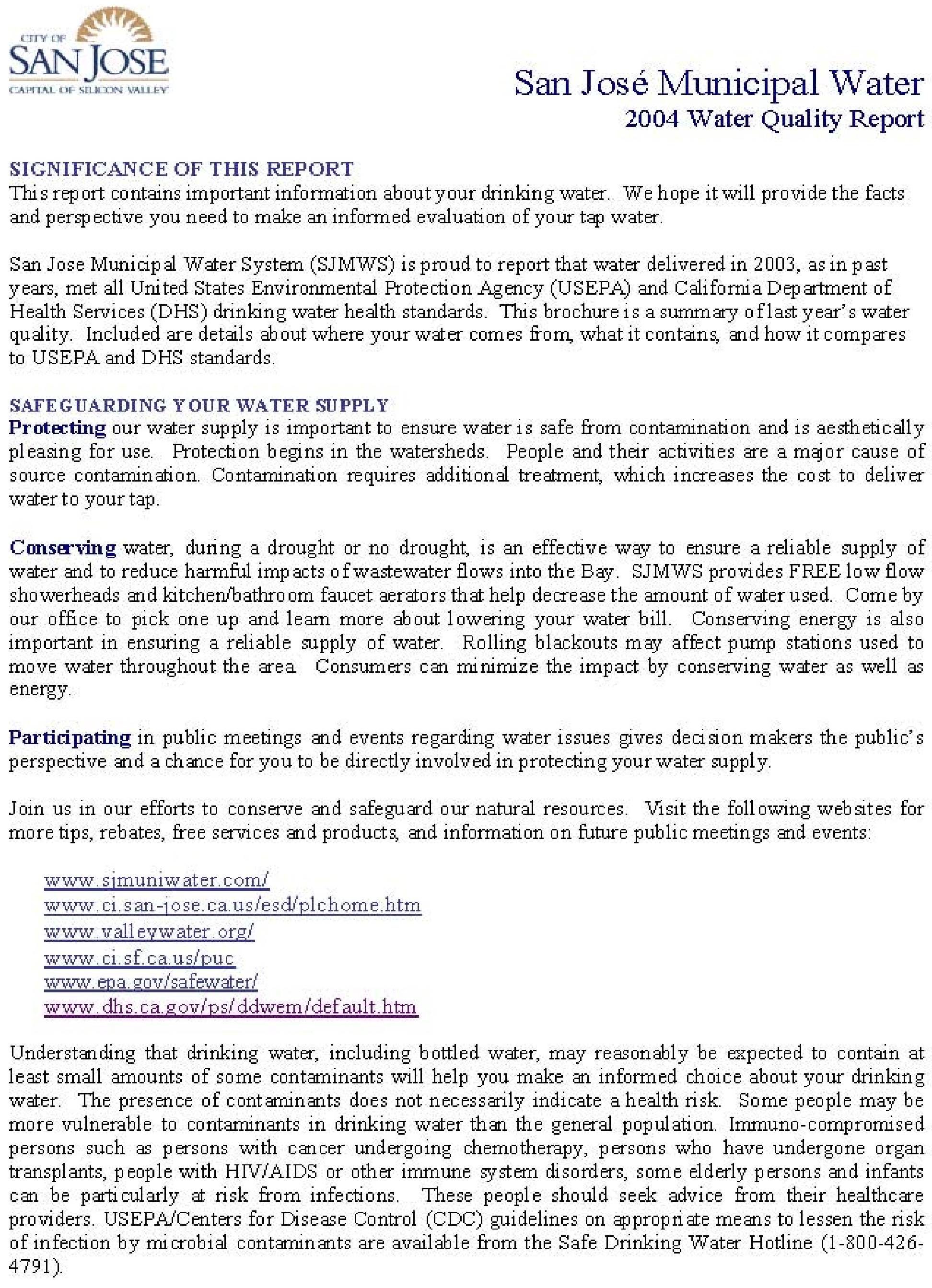
WATER MAIN REPLACEMENTS

- Miramonte Transmission Main Project replaced over two miles of 16" water transmission main with a new 24" diameter line on Miramonte Avenue between the Miramonte Avenue booster station and Central Expressway.
- Permanente Creek Crossing Project replaced the main near the Rengstorff House. This pipeline used a newer technology that directionally drilled beneath the creek without disruption to the creek.
- Rex Manor Neighborhood and Lola Lane Projects replaced approximately one mile of distribution mains, fire hydrants and residential water service lines.

OTHER PROJECTS

As part of Mountain View's commitment to water reliability, approximately one million dollars is dedicated annually for infrastructure improvements including these projects:

- Monta Loma neighborhood construction contract was awarded on a water main replacement project for 1-1/2 miles of distribution mains and residential service lines.
- Well 17 was rehabilitated and a new pump and level sensor installed.
- Well 22–A new drinking water well will be commissioned in 2003.



CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

San José Municipal Water
2004 Water Quality Report

SIGNIFICANCE OF THIS REPORT

This report contains important information about your drinking water. We hope it will provide the facts and perspective you need to make an informed evaluation of your tap water.

San Jose Municipal Water System (SJMWS) is proud to report that water delivered in 2003, as in past years, met all United States Environmental Protection Agency (USEPA) and California Department of Health Services (DHS) drinking water health standards. This brochure is a summary of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to USEPA and DHS standards.

SAFEGUARDING YOUR WATER SUPPLY

Protecting our water supply is important to ensure water is safe from contamination and is aesthetically pleasing for use. Protection begins in the watersheds. People and their activities are a major cause of source contamination. Contamination requires additional treatment, which increases the cost to deliver water to your tap.

Conserving water, during a drought or no drought, is an effective way to ensure a reliable supply of water and to reduce harmful impacts of wastewater flows into the Bay. SJMWS provides FREE low flow showerheads and kitchen/bathroom faucet aerators that help decrease the amount of water used. Come by our office to pick one up and learn more about lowering your water bill. Conserving energy is also important in ensuring a reliable supply of water. Rolling blackouts may affect pump stations used to move water throughout the area. Consumers can minimize the impact by conserving water as well as energy.

Participating in public meetings and events regarding water issues gives decision makers the public's perspective and a chance for you to be directly involved in protecting your water supply.

Join us in our efforts to conserve and safeguard our natural resources. Visit the following websites for more tips, rebates, free services and products, and information on future public meetings and events:

www.sjmuniwater.com/
www.ci.san-jose.ca.us/esd/plchome.htm
www.valleywater.org/
www.ci.sf.ca.us/puc
www.epa.gov/safewater/
www.dhs.ca.gov/ps/ddwem/default.htm

Understanding that drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants will help you make an informed choice about your drinking water. The presence of contaminants does not necessarily indicate a health risk. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk from infections. These people should seek advice from their healthcare providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

San José Municipal Water

2004 Water Quality Report

THE SOURCE OF YOUR WATER

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA and DHS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled drinking water that must provide the same protection for public health.

SAN JOSE MUNICIPAL WATER SYSTEM SOURCES

We serve the Evergreen, Alviso, North San Jose, Edenvale, and Coyote communities of the City of San Jose.

Evergreen Service Area:

SJMWS purchases treated surface water from Santa Clara Valley Water District (SCVWD) and delivers it to our Evergreen customers. SCVWD's source water is mainly imported from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir which all draw water from Sacramento - San Joaquin Delta watershed. SCVWD's local water sources include Anderson and Calero Reservoir. From these reservoirs, water is pumped to the Santa Teresa Treatment Plant in San Jose. SCVWD's source water is vulnerable to potential contamination from a variety of land use practices, such as agricultural and industrial development. The imported sources are also vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildland fires in open space areas. In addition, local sources are also vulnerable to potential contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD's treated water. The water treatment plants provide multiple barriers for physical removal and disinfection of contaminants. For additional information, please visit the SCVWD website at www.valleywater.org/.

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

San José Municipal Water
2004 Water Quality Report

Evergreen Well Fields (Wells 2, 3, 4, & 5):
Ground water from local, deep water wells is available for emergency supply. Evergreen wells were not used in 2003. A source water assessment for the Evergreen wells was conducted in January of 2003. A copy of the assessment is available at our office.

Alviso/North San Jose Service Areas:
SJMWS purchases a blend of Hetch Hetchy water and treated water from San Francisco Public Utilities Commission (SFPUC) and delivers it to our Alviso and North San Jose customers.

Approximately 80-90% surface water is imported from Hetch Hetchy watershed, an area located in Yosemite National Park. The Hetch Hetchy Reservoir captures water inflows coming from spring snowmelt runoff and the Tuolomne River. The Hetch Hetchy Reservoir meets USEPA and DHS criteria for watershed protection, disinfection treatment, bacteriological quality and operational standards. As a result, the USEPA and DHS granted the Hetch Hetchy water source a filtration exemption. Water from this source does not require filtration treatment. SFPUC maintains filtration exemption by monitoring Hetch Hetchy weather conditions, water turbidity levels, coliform bacteria levels, parasite concentrations and other pathogens, and disinfectant levels. Also, they comply with disinfection, sampling and reporting requirements and conduct regular inspections of the protected Hetch Hetchy watershed and reservoirs.

The Alameda and Peninsula watersheds provide the remaining 10-20% of the total SFPUC water supply. The Alameda watershed, located in the East Bay, consists of the Calaveras and San Antonio Reservoirs. The Peninsula watershed captures runoff in Crystal Springs and San Andreas Reservoirs and two smaller reservoirs, Pilarcitos and Stone Dam. These local sources are treated and filtered at Sunol Valley Water Treatment Plant. The SFPUC watersheds are vulnerable to contaminants associated with wildlife and to a limited extent human recreational activity. Historically, the levels of contaminants have been very low in the watersheds. Full details are given in the Drinking Water Source Assessment and Protection Program reports available at our office.

On February 2, 2004, SFPUC successfully switched the drinking water disinfectant from chlorine to chloramines. Chloramine is a combination of chlorine and ammonia. It is considered a more stable, longer lasting disinfectant. With the conversion to chloramines, our customers in North San Jose and Alviso will continue to receive the highest quality water, which meets or exceeds more stringent present and anticipated regulatory standards. An extensive public awareness campaign was conducted prior to the conversion.

North San Jose Well Fields (Wells 1, 2, 3, & 4):
Ground water from local, deep water wells is available for emergency supply. North San Jose wells were not used in 2003. A source water assessment was conducted in January of 2003. A copy of the assessment is available at our office.

Edenvale and Coyote Service Areas
Edenvale Well Field (Wells 11, 12, & 13):
Groundwater from deep water wells provides 100% of the supply. An assessment of the drinking water sources for the Edenvale service area was conducted in January of 2003. Although the source is considered vulnerable to chemical and petroleum processing activities, no contaminants have been detected associated with these activities. A copy of the assessment is available at our office. In addition, there was no detection of contaminants under the Federal Unregulated Contaminant Monitoring Rule (UCMR). The UCMR monitoring helps USEPA determine where certain contaminants occur and

whether the contaminants need to be regulated. For additional information regarding the type of contaminants tested, please contact a water quality engineer at (408) 277-3671.

Coyote Well Field (Wells 21, 22, & 23):
Groundwater from deep water wells provides 100% of the supply. Currently, Coyote Valley's water supply is used for landscaping purposes only.

Distribution facilities in all service areas deliver treated surface water or groundwater through pipe mains, enclosed reservoirs, and pumping stations.

HOW WATER IS TESTED AND REPORTED

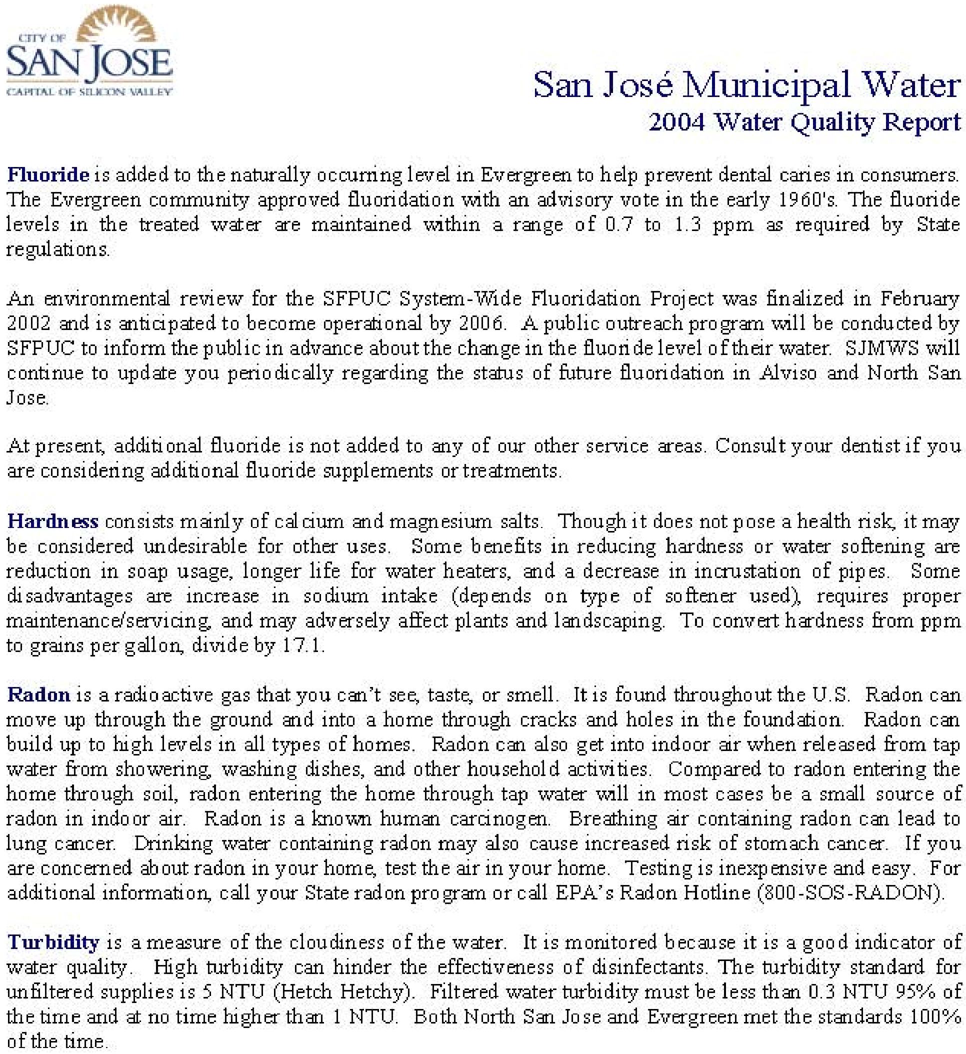
Water at various locations in the distribution system is tested weekly by a private, state-certified laboratory using the latest testing procedures and equipment. During 2003, more than 2,000 samples were collected throughout the distribution system. In addition to these tests, SCVWD and SFPUC perform their own water quality analysis of the source and treated water. Lab analysis was performed for many constituents other than those listed in the tables. Only chemicals detected in the tap water are shown in the tables. Those chemicals not detected in your tap water are not included. For a complete list of all the chemicals analyzed, please contact a water quality engineer at (408) 277-3671.

Test results from our distribution analysis and those of SCVWD and SFPUC are shown in Tables 1-5. Some of the data, though representative, are more than one year old. This is because DHS allows water utilities to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

WHAT'S IN YOUR TAP WATER

Disinfection of surface water is necessary in destroying disease-causing organisms for the protection of public health. In Evergreen, water is disinfected using chloramine (chlorine and ammonia). In 2003, water serving North San Jose and Alviso was disinfected using chlorine. Since February 2, 2004, chloramine is being used in these areas as well. Except for a slight chlorinous taste or odor, these disinfectants are not harmful to the general public. However, they must be removed for **kidney dialysis machines and aquariums**. If you are receiving kidney dialysis treatment, please contact your doctor or dialysis technician and for pet fish, contact your local fish store for more information about special water treatment.

Cryptosporidium and Giardia were detected at low levels in surface water sources. Cryptosporidium and Giardia are parasitic microbes found in surface water throughout the U.S. Although filtration removes them, most commonly-used filtration methods cannot guarantee 100% removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions. Drinking water, including bottled water, may reasonably be expected to contain at least minute amounts of some contaminants including Cryptosporidium and Giardia. The presence of small amounts of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800)-426-4791.



San José Municipal Water

2004 Water Quality Report

Fluoride is added to the naturally occurring level in Evergreen to help prevent dental caries in consumers. The Evergreen community approved fluoridation with an advisory vote in the early 1960's. The fluoride levels in the treated water are maintained within a range of 0.7 to 1.3 ppm as required by State regulations.

An environmental review for the SFPUC System-Wide Fluoridation Project was finalized in February 2002 and is anticipated to become operational by 2006. A public outreach program will be conducted by SFPUC to inform the public in advance about the change in the fluoride level of their water. SJMWS will continue to update you periodically regarding the status of future fluoridation in Alviso and North San Jose.

At present, additional fluoride is not added to any of our other service areas. Consult your dentist if you are considering additional fluoride supplements or treatments.

Hardness consists mainly of calcium and magnesium salts. Though it does not pose a health risk, it may be considered undesirable for other uses. Some benefits in reducing hardness or water softening are reduction in soap usage, longer life for water heaters, and a decrease in incrustation of pipes. Some disadvantages are increase in sodium intake (depends on type of softener used), requires proper maintenance/servicing, and may adversely affect plants and landscaping. To convert hardness from ppm to grains per gallon, divide by 17.1.

Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. For additional information, call your State radon program or call EPA's Radon Hotline (800-SOS-RADON).

Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. The turbidity standard for unfiltered supplies is 5 NTU (Hetch Hetchy). Filtered water turbidity must be less than 0.3 NTU 95% of the time and at no time higher than 1 NTU. Both North San Jose and Evergreen met the standards 100% of the time.

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

San José Municipal Water
2004 Water Quality Report

DEFINITIONS:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water (aesthetics).

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLGs are set by the USEPA.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

San Francisco Public Utilities Commission (SFPUC): Wholesaler of treated surface water that is delivered to Alviso and North San Jose service areas by SJMWS.

Santa Clara Valley Water District (SCVWD): Wholesaler of treated surface water that is delivered to the Evergreen service area by SJMWS.

Source Water: Raw water that has not been treated to meet drinking water standards.

Treated Water: Drinking water that has been treated to meet EPA and DHS drinking water standards.

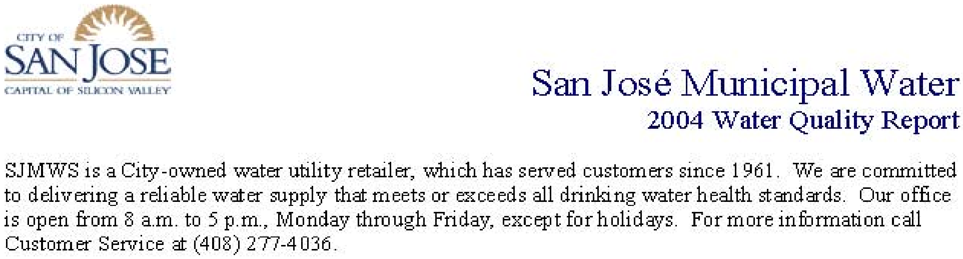
WHO TO CALL FOR MORE INFORMATION

If you have any questions or concerns regarding this report or the quality of your water, please contact a **water quality engineer at (408) 277-3671.**

For more information about contaminants and potential health effects call the **EPA's Safe Drinking Water Hotline 1-800-426-4791.**

2003 STATISTICS

Population Served	102,000
Number of Metered Customers	26,075
Water Service Area in Square Miles	33.3
Miles of Water Main	316
Annual Water Production (million gal.)	6,958
Maximum Daily Production (million gal.)	33.3



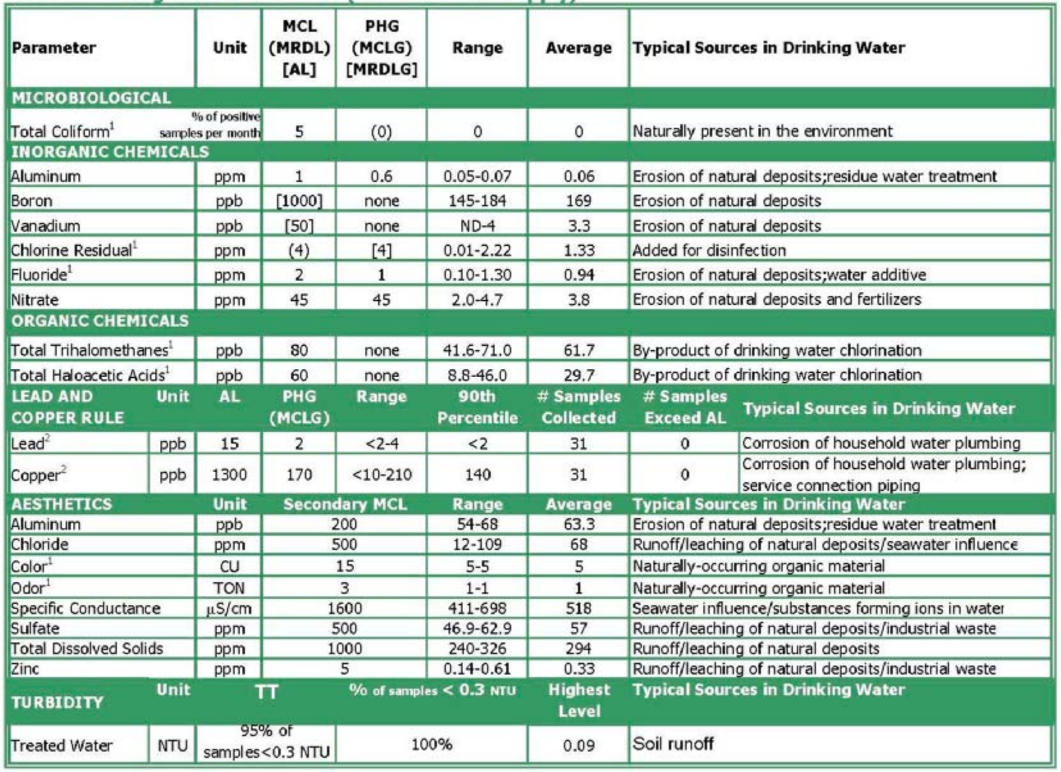
CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

San José Municipal Water

2004 Water Quality Report

SJMWS is a City-owned water utility retailer, which has served customers since 1961. We are committed to delivering a reliable water supply that meets or exceeds all drinking water health standards. Our office is open from 8 a.m. to 5 p.m., Monday through Friday, except for holidays. For more information call Customer Service at (408) 277-4036.

Table 1. Evergreen Service Area (SCVWD Water Supply)



Parameter	Unit	MCL (MRDL) [AL]	PHG (MCLG) [MRDLG]	Range	Average	Typical Sources in Drinking Water
MICROBIOLOGICAL						
Total Coliform[1]	% of positive samples per month	5	(0)	0	0	Naturally present in the environment
INORGANIC CHEMICALS						
Aluminum	ppm	1	0.6	0.05-0.07	0.06	Erosion of natural deposits;residue water treatment
Boron	ppb	[1000]	none	145-184	169	Erosion of natural deposits
Vanadium	ppb	[50]	none	ND-4	3.3	Erosion of natural deposits
Chlorine Residual[1]	ppm	(4)	[4]	0.01-2.22	1.33	Added for disinfection
Fluoride[1]	ppm	2	1	0.10-1.30	0.94	Erosion of natural deposits;water additive
Nitrate	ppm	45	45	2.0-4.7	3.8	Erosion of natural deposits and fertilizers
ORGANIC CHEMICALS						
Total Trihalomethanes[1]	ppb	80	none	41.6-71.0	61.7	By-product of drinking water chlorination
Total Haloacetic Acids[1]	ppb	60	none	8.8-46.0	29.7	By-product of drinking water chlorination

LEAD AND COPPER RULE	Unit	AL	PHG (MCLG)	Range	90th Percentile	# Samples Collected	# Samples Exceed AL	Typical Sources in Drinking Water
Lead[2]	ppb	15	2	<2-4	<2	31	0	Corrosion of household water plumbing
Copper[2]	ppb	1300	170	<10-210	140	31	0	Corrosion of household water plumbing; service connection piping

AESTHETICS	Unit	Secondary MCL	Range	Average	Typical Sources in Drinking Water
Aluminum	ppb	200	54-68	63.3	Erosion of natural deposits;residue water treatment
Chloride	ppm	500	12-109	68	Runoff/leaching of natural deposits/seawater influence
Color[1]	CU	15	5-5	5	Naturally-occurring organic material
Odor[1]	TON	3	1-1	1	Naturally-occurring organic material
Specific Conductance	μS/cm	1600	411-698	518	Seawater influence/substances forming ions in water
Sulfate	ppm	500	46.9-62.9	57	Runoff/leaching of natural deposits/industrial waste
Total Dissolved Solids	ppm	1000	240-326	294	Runoff/leaching of natural deposits
Zinc	ppm	5	0.14-0.61	0.33	Runoff/leaching of natural deposits/industrial waste

TURBIDITY	Unit	TT	% of samples < 0.3 NTU	Highest Level	Typical Sources in Drinking Water
Treated Water	NTU	95% of samples<0.3 NTU	100%	0.09	Soil runoff

Table 2. North San Jose/Alviso Service Area (SFPUC Water Supply)

Parameter	Unit	MCL (MRDL) [AL]	PHG (MCLG) [MRDLG]	Range	Average	Typical Sources in Drinking Water
MICROBIOLOGICAL						
Total Coliform[1]	% of positive samples per month	5	(0)	0	0	Naturally present in the environment
INORGANIC CHEMICALS						
Aluminum	ppm	1	0.6	0.03-0.04	0.04	Erosion of natural deposits
Barium	ppb	1000	2000	<5-67	34	Erosion of natural deposits
Boron	ppb	[1000]	none	<100-150	<100	Erosion of natural deposits
Chlorine Residual[1]	ppm	(4)	[4]	0.08-1.52	0.67	Added for disinfection
Fluoride (Natural)	ppm	2	1	<0.1-0.2	0.1	Erosion of natural deposits
Nickle	ppb	100	12	<1-1	<1	Erosion of natural deposits
Nitrate (as NO3)	ppm	45	45	0.2-0.7	0.45	Erosion of natural deposits, soil run-off
ORGANIC CHEMICALS						
Total Trihalomethanes[1]	ppb	80	none	37.1-70.9	53.9	By-product of drinking water chlorination
Total Haloacetic Acids[1]	ppb	60	none	21.0-40.0	30.2	By-product of drinking water chlorination
Total Organic Carbon	ppb	NS	none	2.4-3.3	2.8	Various natural and manmade sources

LEAD AND COPPER RULE	Unit	AL	PHG (MCLG)	Range	90th Percentile	# Samples Collected	# Samples Exceed AL	Typical Sources in Drinking Water
Lead[2]	ppb	15	2	<2-10	<2	32	0	Corrosion of household water plumbing
Copper[2]	ppb	1300	170	<10-60	50	32	0	Corrosion of household water plumbing; service connection piping

AESTHETICS	Unit	Secondary MCL	Range	Average	Typical Sources in Drinking Water
Iron	ppb	300	<10-28	14	Erosion of natural deposits/residue of water treatment
Chloride	ppm	500	<3-22	8	Runoff/leaching of natural deposits
Color[1]	CU	15	5-5	5	Naturally-occurring organic material
Odor[1]	TON	3	1-2	1	Naturally-occurring organic material
Specific Conductance	µS/cm	1600	29-398	185	Substances forming ions in water/seawater influence
Sulfate	ppm	500	1-43	22	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids	ppm	1000	20-180	100	Runoff/leaching of natural deposits

TURBIDITY	Unit	TT	% of samples <0.3 NTU (Range)	Highest level	Typical Sources in Drinking Water
Hetch Hetchy	NTU	5	(0.24-0.74)	1.58	Soil runoff
Sunol Valley Water Treatment Plant	NTU	95% of samples <0.3 NTU	99%	0.4	Soil runoff

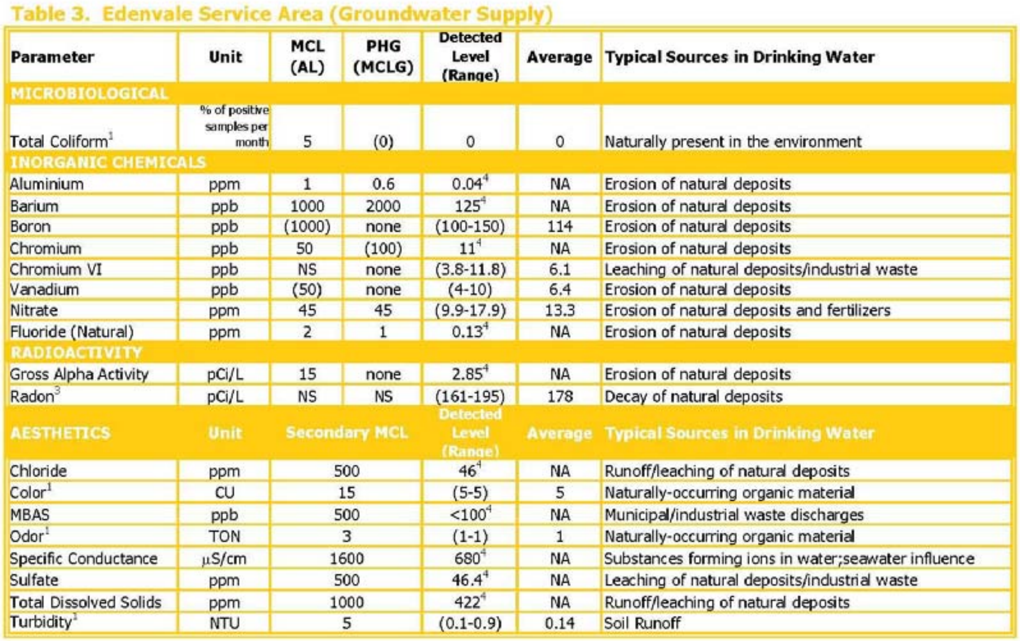
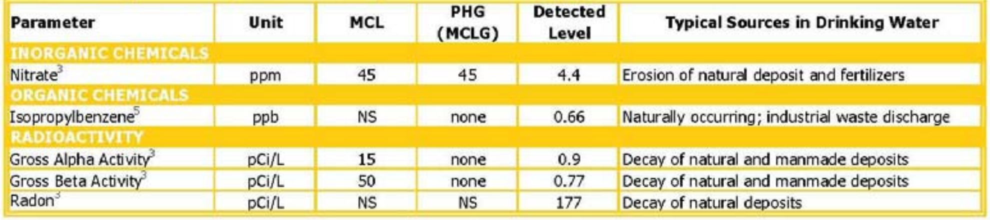


Table 3. Edenvale Service Area (Groundwater Supply)

Parameter	Unit	MCL (AL)	PHG (MCLG)	Detected Level (Range)	Average	Typical Sources in Drinking Water
MICROBIOLOGICAL						
Total Coliform[1]	% of positive samples per month	5	(0)	0	0	Naturally present in the environment
INORGANIC CHEMICALS						
Aluminium	ppm	1	0.6	0.04[4]	NA	Erosion of natural deposits
Barium	ppb	1000	2000	125[4]	NA	Erosion of natural deposits
Boron	ppb	(1000)	none	(100-150)	114	Erosion of natural deposits
Chromium	ppb	50	(100)	11[4]	NA	Erosion of natural deposits
Chromium VI	ppb	NS	none	(3.8-11.8)	6.1	Leaching of natural deposits/industrial waste
Vanadium	ppb	(50)	none	(4-10)	6.4	Erosion of natural deposits
Nitrate	ppm	45	45	(9.9-17.9)	13.3	Erosion of natural deposits and fertilizers
Fluoride (Natural)	ppm	2	1	0.13[4]	NA	Erosion of natural deposits
RADIOACTIVITY						
Gross Alpha Activity	pCi/L	15	none	2.85[4]	NA	Erosion of natural deposits
Radon[3]	pCi/L	NS	NS	(161-195)	178	Decay of natural deposits
AESTHETICS	**Unit**	**Secondary MCL**		**Detected Level (Range)**	**Average**	**Typical Sources in Drinking Water**
Chloride	ppm	500		46[4]	NA	Runoff/leaching of natural deposits
Color[1]	CU	15		(5-5)	5	Naturally-occurring organic material
MBAS	ppb	500		<100[4]	NA	Municipal/industrial waste discharges
Odor[1]	TON	3		(1-1)	1	Naturally-occurring organic material
Specific Conductance	µS/cm	1600		680[4]	NA	Substances forming ions in water;seawater influence
Sulfate	ppm	500		46.4[4]	NA	Leaching of natural deposits/industrial waste
Total Dissolved Solids	ppm	1000		422[4]	NA	Runoff/leaching of natural deposits
Turbidity[1]	NTU	5		(0.1-0.9)	0.14	Soil Runoff

Table 4. Coyote Valley Service Area (Groundwater Supply)



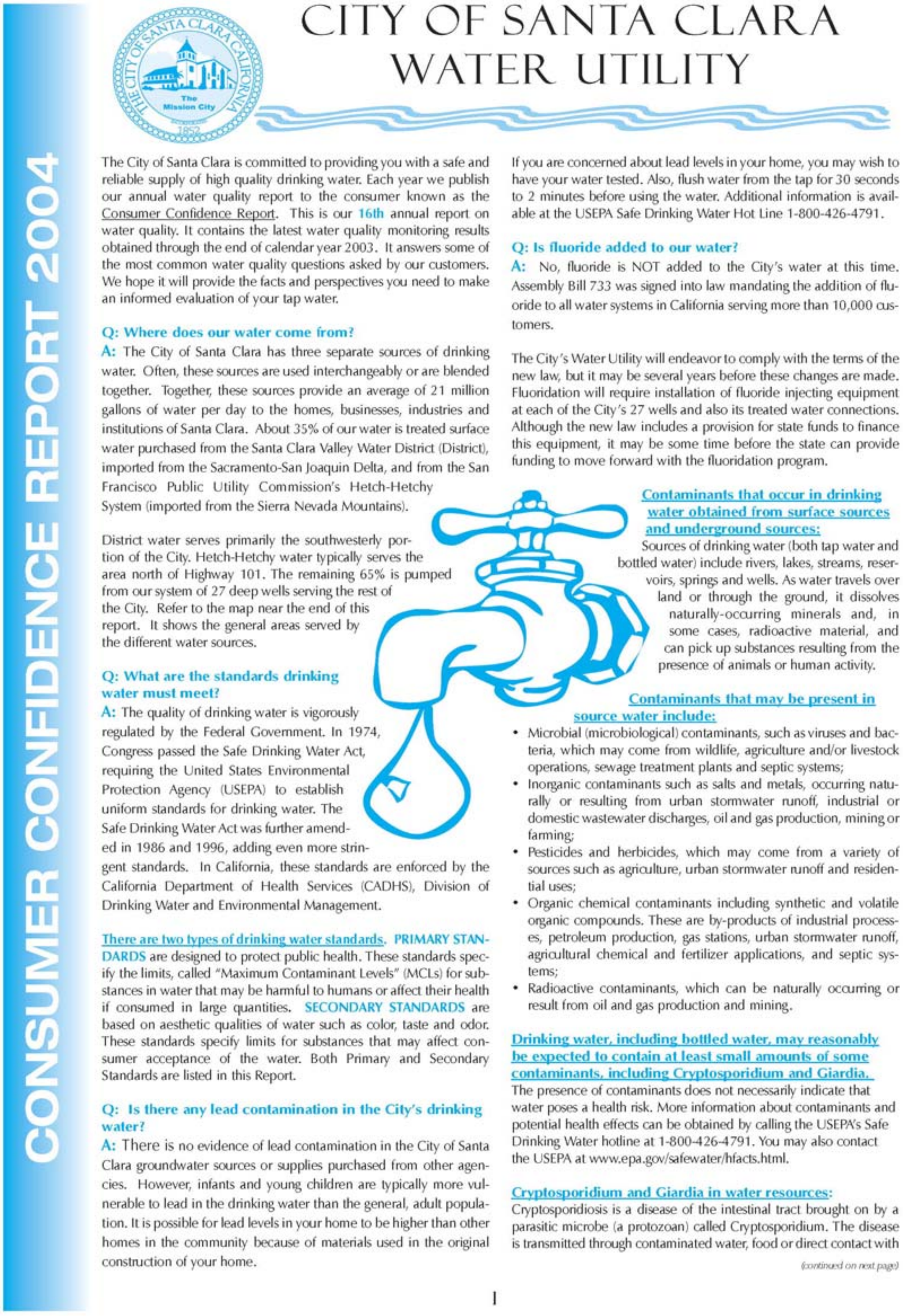
Parameter	Unit	MCL	PHG (MCLG)	Detected Level	Typical Sources in Drinking Water
INORGANIC CHEMICALS					
Nitrate[3]	ppm	45	45	4.4	Erosion of natural deposit and fertilizers
ORGANIC CHEMICALS					
Isopropylbenzene[5]	ppb	NS	none	0.66	Naturally occurring; industrial waste discharge
RADIOACTIVITY					
Gross Alpha Activity[3]	pCi/L	15	none	0.9	Decay of natural and manmade deposits
Gross Beta Activity[3]	pCi/L	50	none	0.77	Decay of natural and manmade deposits
Radon[3]	pCi/L	NS	NS	177	Decay of natural deposits

Table 5. Other Constituents Not Regulated

Parameter	Unit	Secondary MCL	Evergreen		NSJ/Alviso		Edenvale	
			Range	Average	Range	Average	Range	Average
Hardness (as CaCO3)	ppm	NS	85-185	119	8-140	56	NA	309[4]
pH	Units	NS	7.2-7.7	7.5	7.5-9.8	9.1	NA	8[4]
Potassium	ppm	NS	1.4-5.4	2.8	<0.5-2	1	NA	1.6[4]
Sodium	ppm	NS	30.8-83.7	62.8	3-27	15	NA	28.5[4]

NOTES:
1. Distribution data in 2003
2. Distribution data in 2002
3. Well data in 2000
4. Only one sample collected
5. Well data in 1999

ABBREVIATIONS:
pCi/L – pico Curies per liter
CU- Color Unit
ND – Not Detected
NS – No Standard
NA – Not applicable
AL- Action Level
TON- Threshold Odor Number
NTU – Nephelometric Turbidity Units (measurement of suspended material in water)
ppm – parts-per-million (1 ppm equals 1 milligram per liter (mg/L))
ppb – parts-per-billion (1 ppb equals 1 microgram per liter (μg/L))
< - less than
μS/cm – microSiemens per centimeter



CONSUMER CONFIDENCE REPORT 2004

CITY OF SANTA CLARA WATER UTILITY

The City of Santa Clara is committed to providing you with a safe and reliable supply of high quality drinking water. Each year we publish our annual water quality report to the consumer known as the Consumer Confidence Report. This is our 16th annual report on water quality. It contains the latest water quality monitoring results obtained through the end of calendar year 2003. It answers some of the most common water quality questions asked by our customers. We hope it will provide the facts and perspectives you need to make an informed evaluation of your tap water.

Q: Where does our water come from?

A: The City of Santa Clara has three separate sources of drinking water. Often, these sources are used interchangeably or are blended together. Together, these sources provide an average of 21 million gallons of water per day to the homes, businesses, industries and institutions of Santa Clara. About 35% of our water is treated surface water purchased from the Santa Clara Valley Water District (District), imported from the Sacramento-San Joaquin Delta, and from the San Francisco Public Utility Commission's Hetch-Hetchy System (imported from the Sierra Nevada Mountains).

District water serves primarily the southwesterly portion of the City. Hetch-Hetchy water typically serves the area north of Highway 101. The remaining 65% is pumped from our system of 27 deep wells serving the rest of the City. Refer to the map near the end of this report. It shows the general areas served by the different water sources.

Q: What are the standards drinking water must meet?

A: The quality of drinking water is vigorously regulated by the Federal Government. In 1974, Congress passed the Safe Drinking Water Act, requiring the United States Environmental Protection Agency (USEPA) to establish uniform standards for drinking water. The Safe Drinking Water Act was further amended in 1986 and 1996, adding even more stringent standards. In California, these standards are enforced by the California Department of Health Services (CADHS), Division of Drinking Water and Environmental Management.

There are two types of drinking water standards. **PRIMARY STANDARDS** are designed to protect public health. These standards specify the limits, called "Maximum Contaminant Levels" (MCLs) for substances in water that may be harmful to humans or affect their health if consumed in large quantities. **SECONDARY STANDARDS** are based on aesthetic qualities of water such as color, taste and odor. These standards specify limits for substances that may affect consumer acceptance of the water. Both Primary and Secondary Standards are listed in this Report.

Q: Is there any lead contamination in the City's drinking water?

A: There is no evidence of lead contamination in the City of Santa Clara groundwater sources or supplies purchased from other agencies. However, infants and young children are typically more vulnerable to lead in the drinking water than the general, adult population. It is possible for lead levels in your home to be higher than other homes in the community because of materials used in the original construction of your home. If you are concerned about lead levels in your home, you may wish to have your water tested. Also, flush water from the tap for 30 seconds to 2 minutes before using the water. Additional information is available at the USEPA Safe Drinking Water Hot Line 1-800-426-4791.

Q: Is fluoride added to our water?

A: No, fluoride is NOT added to the City's water at this time. Assembly Bill 733 was signed into law mandating the addition of fluoride to all water systems in California serving more than 10,000 customers.

The City's Water Utility will endeavor to comply with the terms of the new law, but it may be several years before these changes are made. Fluoridation will require installation of fluoride injecting equipment at each of the City's 27 wells and also its treated water connections. Although the new law includes a provision for state funds to finance this equipment, it may be some time before the state can provide funding to move forward with the fluoridation program.

Contaminants that occur in drinking water obtained from surface sources and underground sources:

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, reservoirs, springs and wells. As water travels over land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include:

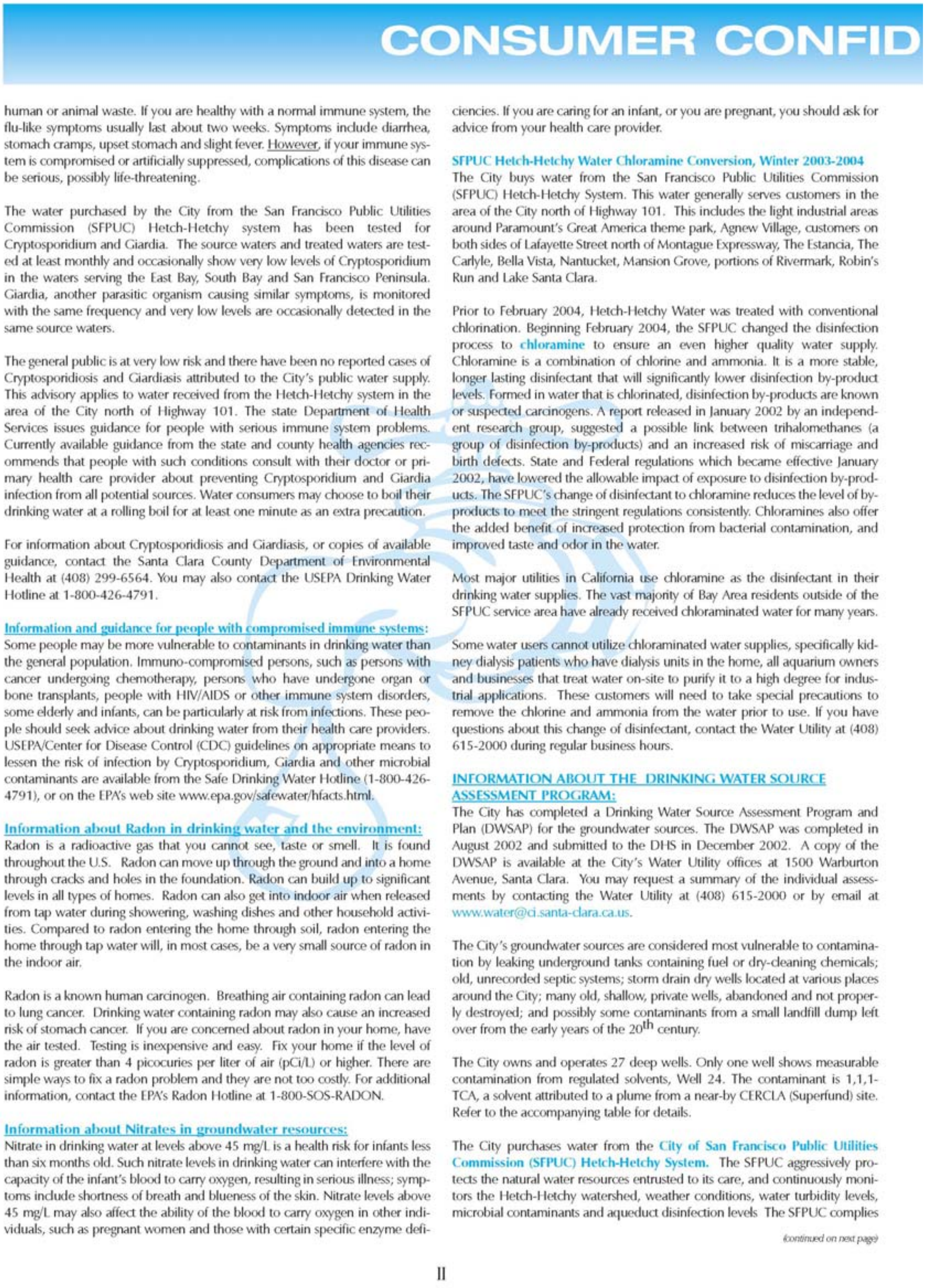
- Microbial (microbiological) contaminants, such as viruses and bacteria, which may come from wildlife, agriculture and/or livestock operations, sewage treatment plants and septic systems;
- Inorganic contaminants such as salts and metals, occurring naturally or resulting from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses;
- Organic chemical contaminants including synthetic and volatile organic compounds. These are by-products of industrial processes, petroleum production, gas stations, urban stormwater runoff, agricultural chemical and fertilizer applications, and septic systems;
- Radioactive contaminants, which can be naturally occurring or result from oil and gas production and mining.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants, including Cryptosporidium and Giardia. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water hotline at 1-800-426-4791. You may also contact the USEPA at www.epa.gov/safewater/hfacts.html.

Cryptosporidium and Giardia in water resources:

Cryptosporidiosis is a disease of the intestinal tract brought on by a parasitic microbe (a protozoan) called Cryptosporidium. The disease is transmitted through contaminated water, food or direct contact with

(continued on next page)



CONSUMER CONFID

human or animal waste. If you are healthy with a normal immune system, the flu-like symptoms usually last about two weeks. Symptoms include diarrhea, stomach cramps, upset stomach and slight fever. However, if your immune system is compromised or artificially suppressed, complications of this disease can be serious, possibly life-threatening.

The water purchased by the City from the San Francisco Public Utilities Commission (SFPUC) Hetch-Hetchy system has been tested for Cryptosporidium and Giardia. The source waters and treated waters are tested at least monthly and occasionally show very low levels of Cryptosporidium in the waters serving the East Bay, South Bay and San Francisco Peninsula. Giardia, another parasitic organism causing similar symptoms, is monitored with the same frequency and very low levels are occasionally detected in the same source waters.

The general public is at very low risk and there have been no reported cases of Cryptosporidiosis and Giardiasis attributed to the City's public water supply. This advisory applies to water received from the Hetch-Hetchy system in the area of the City north of Highway 101. The state Department of Health Services issues guidance for people with serious immune system problems. Currently available guidance from the state and county health agencies recommends that people with such conditions consult with their doctor or primary health care provider about preventing Cryptosporidium and Giardia infection from all potential sources. Water consumers may choose to boil their drinking water at a rolling boil for at least one minute as an extra precaution.

For information about Cryptosporidiosis and Giardiasis, or copies of available guidance, contact the Santa Clara County Department of Environmental Health at (408) 299-6564. You may also contact the USEPA Drinking Water Hotline at 1-800-426-4791.

Information and guidance for people with compromised immune systems:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ or bone transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791), or on the EPA's web site www.epa.gov/safewater/hfacts.html.

Information about Radon in drinking water and the environment:

Radon is a radioactive gas that you cannot see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to significant levels in all types of homes. Radon can also get into indoor air when released from tap water during showering, washing dishes and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a very small source of radon in the indoor air.

Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause an increased risk of stomach cancer. If you are concerned about radon in your home, have the air tested. Testing is inexpensive and easy. Fix your home if the level of radon is greater than 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem and they are not too costly. For additional information, contact the EPA's Radon Hotline at 1-800-SOS-RADON.

Information about Nitrates in groundwater resources:

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants less than six months old. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

SFPUC Hetch-Hetchy Water Chloramine Conversion, Winter 2003-2004

The City buys water from the San Francisco Public Utilities Commission (SFPUC) Hetch-Hetchy System. This water generally serves customers in the area of the City north of Highway 101. This includes the light industrial areas around Paramount's Great America theme park, Agnew Village, customers on both sides of Lafayette Street north of Montague Expressway, The Estancia, The Carlyle, Bella Vista, Nantucket, Mansion Grove, portions of Rivermark, Robin's Run and Lake Santa Clara.

Prior to February 2004, Hetch-Hetchy Water was treated with conventional chlorination. Beginning February 2004, the SFPUC changed the disinfection process to **chloramine** to ensure an even higher quality water supply. Chloramine is a combination of chlorine and ammonia. It is a more stable, longer lasting disinfectant that will significantly lower disinfection by-product levels. Formed in water that is chlorinated, disinfection by-products are known or suspected carcinogens. A report released in January 2002 by an independent research group, suggested a possible link between trihalomethanes (a group of disinfection by-products) and an increased risk of miscarriage and birth defects. State and Federal regulations which became effective January 2002, have lowered the allowable impact of exposure to disinfection by-products. The SFPUC's change of disinfectant to chloramine reduces the level of by-products to meet the stringent regulations consistently. Chloramines also offer the added benefit of increased protection from bacterial contamination, and improved taste and odor in the water.

Most major utilities in California use chloramine as the disinfectant in their drinking water supplies. The vast majority of Bay Area residents outside of the SFPUC service area have already received chloraminated water for many years.

Some water users cannot utilize chloraminated water supplies, specifically kidney dialysis patients who have dialysis units in the home, all aquarium owners and businesses that treat water on-site to purify it to a high degree for industrial applications. These customers will need to take special precautions to remove the chlorine and ammonia from the water prior to use. If you have questions about this change of disinfectant, contact the Water Utility at (408) 615-2000 during regular business hours.

INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM:

The City has completed a Drinking Water Source Assessment Program and Plan (DWSAP) for the groundwater sources. The DWSAP was completed in August 2002 and submitted to the DHS in December 2002. A copy of the DWSAP is available at the City's Water Utility offices at 1500 Warburton Avenue, Santa Clara. You may request a summary of the individual assessments by contacting the Water Utility at (408) 615-2000 or by email at www.water@ci.santa-clara.ca.us.

The City's groundwater sources are considered most vulnerable to contamination by leaking underground tanks containing fuel or dry-cleaning chemicals; old, unrecorded septic systems; storm drain dry wells located at various places around the City; many old, shallow, private wells, abandoned and not properly destroyed; and possibly some contaminants from a small landfill dump left over from the early years of the 20th century.

The City owns and operates 27 deep wells. Only one well shows measurable contamination from regulated solvents, Well 24. The contaminant is 1,1,1-TCA, a solvent attributed to a plume from a near-by CERCLA (Superfund) site. Refer to the accompanying table for details.

The City purchases water from the **City of San Francisco Public Utilities Commission (SFPUC) Hetch-Hetchy System.** The SFPUC aggressively protects the natural water resources entrusted to its care, and continuously monitors the Hetch-Hetchy watershed, weather conditions, water turbidity levels, microbial contaminants and aqueduct disinfection levels The SFPUC complies

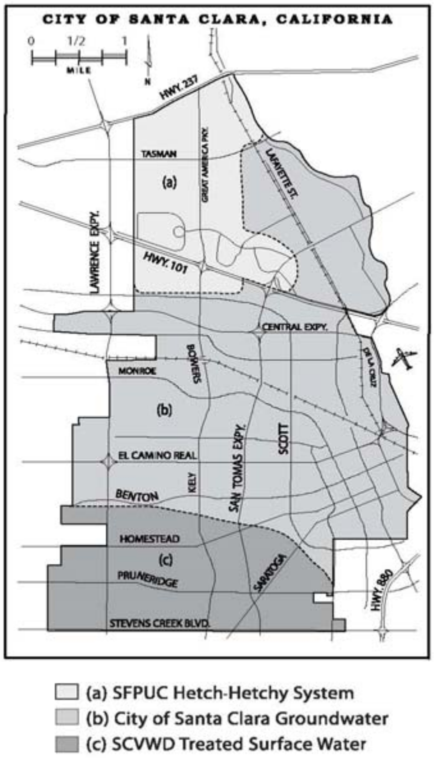
(continued on next page)

ENCE REPORT 2004

with monitoring and reporting requirements to protect its watersheds and to update its watershed sanitary surveys for the Hetch-Hetchy supply annually. The 2003 annual update on the Watershed Control Program and Sanitary Survey describes the watersheds and water supply system, identifies potential sources of contamination in the watersheds, discusses the existing and recommended watershed management practices that protect water quality, and summarizes the water quality monitoring conducted.

The SFPUC completed a detailed drinking water source assessment in 2000. The assessment showed that SFPUC watersheds have very low levels of contaminants, and those contaminants found are associated with wildlife and to a limited extent, human recreational activity. If you would like to review a copy of the assessment in the SFPUC offices, please call toll-free at (877) 737-8297.

The **Santa Clara Valley Water District (District)** provides treated surface water to our water system from three water treatment plants. District surface water is imported from the South Bay Aqueduct, Lake Del Valle and San Luis Reservoir, which all draw water from the Sacramento - San Joaquin Delta watershed. The District's local water sources include Anderson and Calero Reservoirs. The District's source waters are vulnerable to potential contamination from a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. The imported sources are also vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildland fires in open space areas. In addition, local sources are vulnerable to potential contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in the District's treated water. The water treatment plants provide multiple barriers for physical removal and disinfection of contaminants. For additional information, visit the District website at www.valleywater.org.



☐ (a) SFPUC Hetch-Hetchy System
▨ (b) City of Santa Clara Groundwater
■ (c) SCVWD Treated Surface Water

It is important to us that you, the water consumer, have current and factual information about your water supply. In this latest issue of our Report, we hope to further your understanding and strengthen your confidence in the quality and integrity of the water supplied to you by the City of Santa Clara. We take great pride in delivering the safest and highest quality water available.

If you have any questions about the information in this report, or if you want to participate in water quality related issues, please call us at **408-615-2000.** You may also attend regularly scheduled City Council meetings at 7:00 pm on Tuesdays in the Council Chambers of City Hall, 1500 Warburton Avenue, Santa Clara.

If you would like to learn more about drinking water quality, treatment and regulation, contact these home pages on the Internet:

- *American Water Works Association:* http://www.awwa.org
- *California Department of Health Services, Division of Drinking Water and Environmental Management:* http://www.dhs.cahwnet.gov/org/ps/ddwem
- *United States Environmental Protection Agency:* http://www.epa.gov/OGWDW
- *San Francisco Public Utilities Commission, Water Quality Bureau:* http://better.sfwater.org
- *Santa Clara Valley Water District:* http://www.valleywater.org
- *Water Education Foundation:* http://www.water-ed.org
- *Water Quality Information Center:* http://www.nal.usda.gov/wqic

Attencion: Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

此份有關你的食水報告,內有重要資料和訊息,請找
他人為你翻譯及解釋清楚。

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

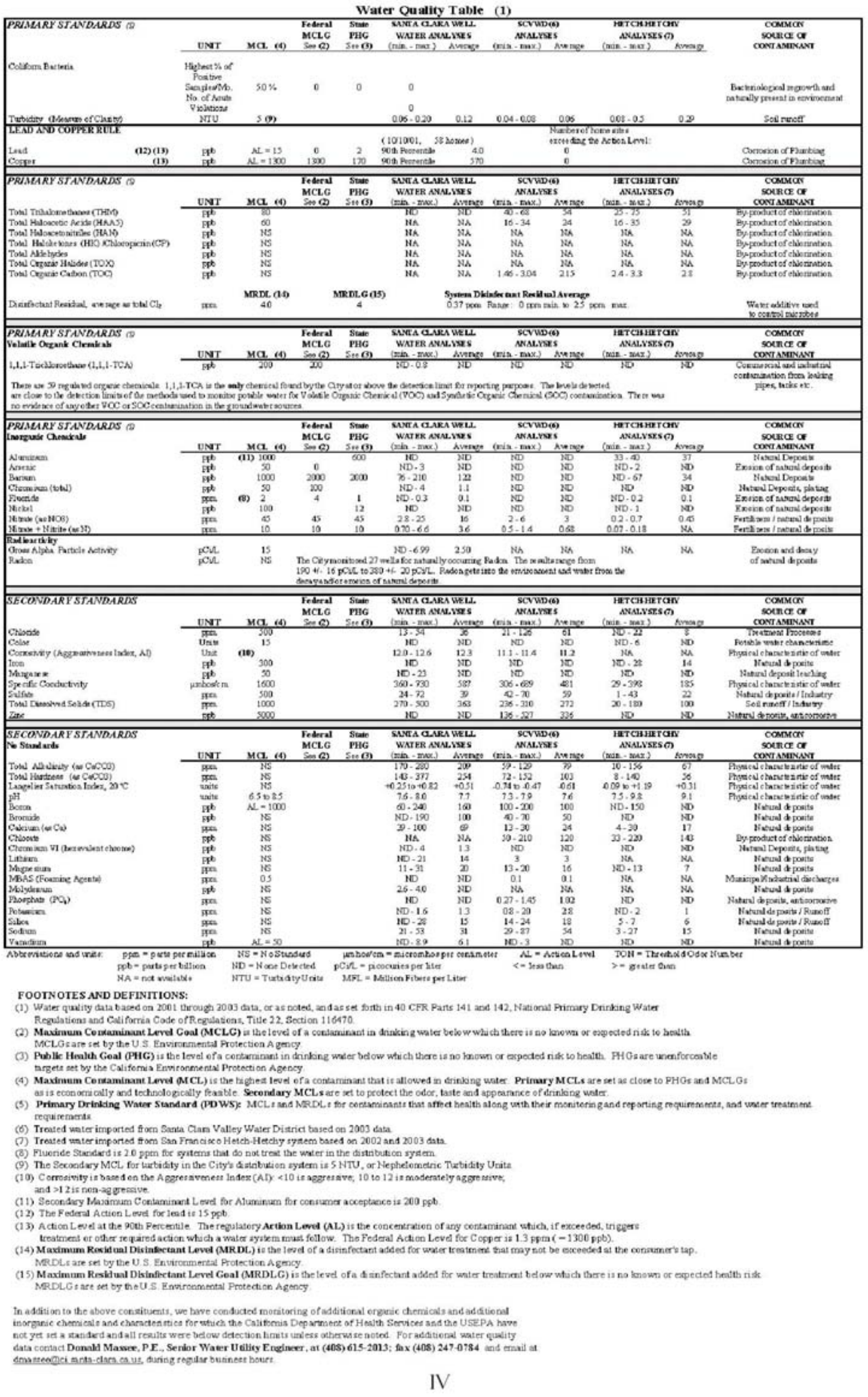
Chi tiết này thật quan trọng.
Xin nhờ người dịch cho quý vị.

이 안내는 매우 중요합니다.
본인을 위해 번역인을 사용하십시오.

यह सूचना महत्वपूर्ण है ।
कृपा करके किसी से :सका अनुवाद करायें ।

ਇਹ ਸੂਚਨਾ ਮਹਤੱਵਪੂਰਣ ਹੈ।
ਕ੍ਰਿਪਾ ਕਰਕੇ ਕਿਸੀ ਤੋ ਇਸ ਦਾ ਅਨੁਵਾਦ ਕਰਾਉ।

(continued on next page)



Water Quality Table (1)

PRIMARY STANDARDS (5)	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
Coliform Bacteria	Highest % of Positive Samples/Mo.	5.0 %	0	0	0						Bacteriological regrowth and naturally present in environment
	No. of Acute Violations				0						
Turbidity (Measure of Clarity)	NTU	5 (9)			0.06 - 0.20	0.12	0.04 - 0.08	0.06	0.08 - 0.5	0.29	Soil runoff
LEAD AND COPPER RULE					(10/10/01, 58 homes)			Number of home sites exceeding the Action Level:			
Lead (12) (13)	ppb	AL = 15	0	2	90th Percentile	4.0		0			Corrosion of Plumbing
Copper (13)	ppb	AL = 1300	1300	170	90th Percentile	570		0			Corrosion of Plumbing

PRIMARY STANDARDS (5)	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
Total Trihalomethanes (THM)	ppb	80			ND	ND	40 - 68	54	25 - 75	51	By-product of chlorination
Total Haloacetic Acids (HAA5)	ppb	60			NA	NA	16 - 34	24	16 - 35	29	By-product of chlorination
Total Haloacetonitriles (HAN)	ppb	NS			NA	NA	NA	NA	NA	NA	By-product of chlorination
Total Haloketones (HK) /Chloropicrin (CP)	ppb	NS			NA	NA	NA	NA	NA	NA	By-product of chlorination
Total Aldehydes	ppb	NS			NA	NA	NA	NA	NA	NA	By-product of chlorination
Total Organic Halides (TOX)	ppb	NS			NA	NA	NA	NA	NA	NA	By-product of chlorination
Total Organic Carbon (TOC)	ppb	NS			NA	NA	1.46 - 3.04	2.15	2.4 - 3.3	2.8	By-product of chlorination
		MRDL (14)		**MRDLG (15)**	**System Disinfectant Residual Average**						
Disinfectant Residual, average as total Cl_2	ppm	4.0		4	0.37 ppm Range: 0 ppm min. to 2.5 ppm max.						Water additive used to control microbes

PRIMARY STANDARDS (5) **Volatile Organic Chemicals**	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
1,1,1-Trichloroethane (1,1,1-TCA)	ppb	200	200		ND - 0.8	ND	ND	ND	ND	ND	Commercial and industrial contamination from leaking pipes, tanks etc.

There are 59 regulated organic chemicals. 1,1,1-TCA is the **only** chemical found by the City at or above the detection limit for reporting purposes. The levels detected are close to the detection limits of the methods used to monitor potable water for Volatile Organic Chemical (VOC) and Synthetic Organic Chemical (SOC) contamination. There was no evidence of any other VOC or SOC contamination in the groundwater sources.

PRIMARY STANDARDS (5) **Inorganic Chemicals**	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
Aluminum	ppb	(11) 1000		600	ND	ND	ND	ND	33 - 40	37	Natural Deposits
Arsenic	ppb	50	0		ND - 3	ND	ND	ND	ND - 2	ND	Erosion of natural deposits
Barium	ppb	1000	2000	2000	76 - 210	122	ND	ND	ND - 67	34	Natural Deposits
Chromium (total)	ppb	50	100		ND - 4	1.1	ND	ND	ND	ND	Natural Deposits, plating
Fluoride	ppm	(8) 2	4	1	ND - 0.3	0.1	ND	ND	ND - 0.2	0.1	Erosion of natural deposits
Nickel	ppb	100		12	ND	ND	ND	ND	ND - 1	ND	Erosion of natural deposits
Nitrate (as NO3)	ppm	45	45	45	2.8 - 25	16	2 - 6	3	0.2 - 0.7	0.45	Fertilizers / natural deposits
Nitrate + Nitrite (as N)	ppm	10	10	10	0.70 - 6.6	3.6	0.5 - 1.4	0.68	0.07 - 0.18	NA	Fertilizers / natural deposits
Radioactivity											
Gross Alpha Particle Activity	pCi/L	15			ND - 6.99	2.50	NA	NA	NA	NA	Erosion and decay of natural deposits
Radon	pCi/L	NS	The City monitored 27 wells for naturally occurring Radon. The results range from 190 +/- 16 pCi/L to 380 +/- 20 pCi/L. Radon gets into the environment and water from the decay and/or erosion of natural deposits.								

SECONDARY STANDARDS	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
Chloride	ppm	500			13 - 54	26	21 - 126	61	ND - 22	8	Treatment Processes
Color	Units	15			ND	ND	ND	ND	ND - 6	ND	Potable water characteristic
Corrosivity (Aggressiveness Index, AI)	Unit	(10)			12.0 - 12.6	12.3	11.1 - 11.4	11.2	NA	NA	Physical characteristic of water
Iron	ppb	300			ND	ND	ND	ND	ND - 28	14	Natural deposits
Manganese	ppb	50			ND - 23	ND	ND	ND	ND	ND	Natural deposit leaching
Specific Conductivity	µmhos/cm	1600			360 - 730	587	306 - 689	481	29 - 398	185	Physical characteristic of water
Sulfate	ppm	500			24 - 72	39	42 - 70	59	1 - 43	22	Natural deposits / Industry
Total Dissolved Solids (TDS)	ppm	1000			270 - 500	363	236 - 310	272	20 - 180	100	Soil runoff / Industry
Zinc	ppb	5000			ND	ND	136 - 527	336	ND	ND	Natural deposits, anticorrosive

SECONDARY STANDARDS **No Standards**	UNIT	MCL (4)	Federal MCLG See (2)	State PHG See (3)	SANTA CLARA WELL WATER ANALYSES (min. - max.)	Average	SCVWD(6) ANALYSES (min. - max.)	Average	HETCH-HETCHY ANALYSES (7) (min. - max.)	Average	COMMON SOURCE OF CONTAMINANT
Total Alkalinity (as CaCO3)	ppm	NS			170 - 280	209	59 - 129	79	10 - 156	67	Physical characteristic of water
Total Hardness (as CaCO3)	ppm	NS			143 - 377	254	72 - 152	103	8 - 140	56	Physical characteristic of water
Langelier Saturation Index, 20 °C	units	NS			+0.25 to +0.82	+0.51	-0.74 to -0.47	-0.61	-0.09 to +1.19	+0.31	Physical characteristic of water
pH	units	6.5 to 8.5			7.6 - 8.0	7.7	7.3 - 7.9	7.6	7.5 - 9.8	9.1	Physical characteristic of water
Boron	ppb	AL = 1000			60 - 240	160	100 - 200	100	ND - 150	ND	Natural deposits
Bromide	ppb	NS			ND - 190	100	40 - 70	50	ND	ND	Natural deposits
Calcium (as Ca)	ppm	NS			39 - 100	69	13 - 30	24	4 - 30	17	Natural deposits
Chlorate	ppb	NS			NA	NA	30 - 210	120	33 - 220	143	By-product of chlorination
Chromium VI (hexavalent chrome)	ppb	NS			ND - 4	1.3	ND	ND	ND	ND	Natural Deposits, plating
Lithium	ppb	NS			ND - 21	14	3	3	NA	NA	Natural deposits
Magnesium	ppm	NS			11 - 31	20	13 - 20	16	ND - 13	7	Natural deposits
MBAS (Foaming Agents)	ppm	0.5			ND	ND	0.1	0.1	NA	NA	Municipal/Industrial discharges
Molybdenum	ppb	NS			2.6 - 4.0	ND	NA	NA	NA	NA	Natural deposits
Phosphate (PO$_4$)	ppm	NS			ND	ND	0.27 - 1.45	1.02	ND	ND	Natural deposits, anticorrosive
Potassium	ppm	NS			ND - 1.6	1.3	0.8 - 20	2.8	ND - 2	1	Natural deposits / Runoff
Silica	ppm	NS			ND - 28	15	14 - 24	18	5 - 7	6	Natural deposits / Runoff
Sodium	ppm	NS			21 - 53	31	29 - 87	54	3 - 27	15	Natural deposits
Vanadium	ppb	AL = 50			ND - 8.9	6.1	ND - 3	ND	ND	ND	Natural deposits

Abbreviations and units:
ppm = parts per million
ppb = parts per billion
NA = not available
NS = No Standard
ND = None Detected
NTU = Turbidity Units
µmhos/cm = micromhos per centimeter
pCi/L = picocuries per liter
MFL = Million Fibers per Liter
AL = Action Level
<= less than
TON = Threshold Odor Number
>= greater than

FOOTNOTES AND DEFINITIONS:

(1) Water quality data based on 2001 through 2003 data, or as noted, and as set forth in 40 CFR Parts 141 and 142, National Primary Drinking Water Regulations and California Code of Regulations, Title 22, Section 116470.

(2) **Maximum Contaminant Level Goal (MCLG)** is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

(3) **Public Health Goal (PHG)** is the level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are unenforceable targets set by the California Environmental Protection Agency.

(4) **Maximum Contaminant Level (MCL)** is the highest level of a contaminant that is allowed in drinking water. **Primary MCLs** are set as close to PHGs and MCLGs as is economically and technologically feasible. **Secondary MCLs** are set to protect the odor, taste and appearance of drinking water.

(5) **Primary Drinking Water Standard (PDWS):** MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

(6) Treated water imported from Santa Clara Valley Water District based on 2003 data.

(7) Treated water imported from San Francisco Hetch-Hetchy system based on 2002 and 2003 data.

(8) Fluoride Standard is 2.0 ppm for systems that do not treat the water in the distribution system.

(9) The Secondary MCL for turbidity in the City's distribution system is 5 NTU, or Nephelometric Turbidity Units.

(10) Corrosivity is based on the Aggressiveness Index (AI): <10 is aggressive; 10 to 12 is moderately aggressive; and >12 is non-aggressive.

(11) Secondary Maximum Contaminant Level for Aluminum for consumer acceptance is 200 ppb.

(12) The Federal Action Level for lead is 15 ppb.

(13) Action Level at the 90th Percentile. The regulatory **Action Level (AL)** is the concentration of any contaminant which, if exceeded, triggers treatment or other required action which a water system must follow. The Federal Action Level for Copper is 1.3 ppm (= 1300 ppb).

(14) **Maximum Residual Disinfectant Level (MRDL)** is the level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap. MRDLs are set by the U.S. Environmental Protection Agency.

(15) **Maximum Residual Disinfectant Level Goal (MRDLG)** is the level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLGs are set by the U.S. Environmental Protection Agency.

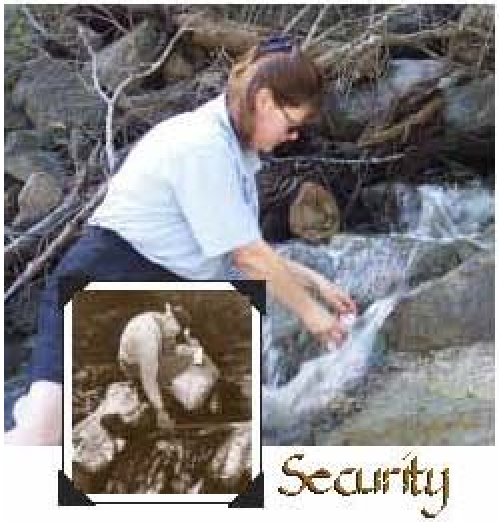
In addition to the above constituents, we have conducted monitoring of additional organic chemicals and additional inorganic chemicals and characteristics for which the California Department of Health Services and the USEPA have not yet set a standard and all results were below detection limits unless otherwise noted. For additional water quality data contact **Donald Massee, P.E., Senior Water Utility Engineer, at (408) 615-2013; fax (408) 247-0784** and email at dmassee@ci.santa-clara.ca.us, during regular business hours.

IV

Important Reminder for Aquarium Owners and Home Dialysis Patients

Chloramine and chlorine may be present in water served by San Jose Water Company. They are used to protect public health by destroying disease causing organisms. Except for a slight chlorinous taste or odor, these disinfectants will not cause any problems for the general public. However, aquarium owners and home dialysis patients must take special precautions before the water can be used in aquariums or kidney dialysis machines. Before filling an aquarium or fish pond, the disinfectant must be removed. Your local tropical fish store can help determine the best water treatment for your fish.

For properly conditioned kidney dialysis equipment, adding ascorbic acid or using granular activated carbon should make the water safe for dialysis. Please contact your doctor or dialysis technician to be sure your home equipment is adequate and proper tests are being performed every time it is used.


Security

To Learn More About the Quality of Your Water

Your drinking water is continually tested to ensure compliance with state and federal standards for quality and safety. This annual report summarizes the results of more than 17,000 water quality tests conducted throughout the year. If you have any questions about your water quality, service or the information contained in this report, please call us at (408) 279-7900 during normal business hours (Monday through Friday between 8:00 a.m. and 5:30 p.m.). Or, you may contact the USEPA Safe Drinking Water Hotline at (800) 426-4791 for additional public information about the *Safe Drinking Water Act* or USEPA's drinking water regulatory programs.

Drinking Water on the Internet

Detailed information about specific drinking water topics is available on the Internet. Visit our web site or any other of those listed below to find out more about water treatment, quality and current regulations.

San Jose Water Company: www.sjwater.com

American Water Works Association: www.awwa.org

California Department of Health Services, Division of Drinking Water and Environmental Management: www.dhs.cahwnet.gov/ps/ddwem/regulations

United States Environmental Protection Agency: www.epa.gov/ogwdw/

Santa Clara Valley Water District: www.valleywater.org

This report is being sent to you in compliance with the Safe Drinking Water Act. Landlords, businesses and schools are encouraged to share this report with nonbilled water users at their locations. Additional copies are available free of charge by calling our office.

Este informe contiene información [illegible]

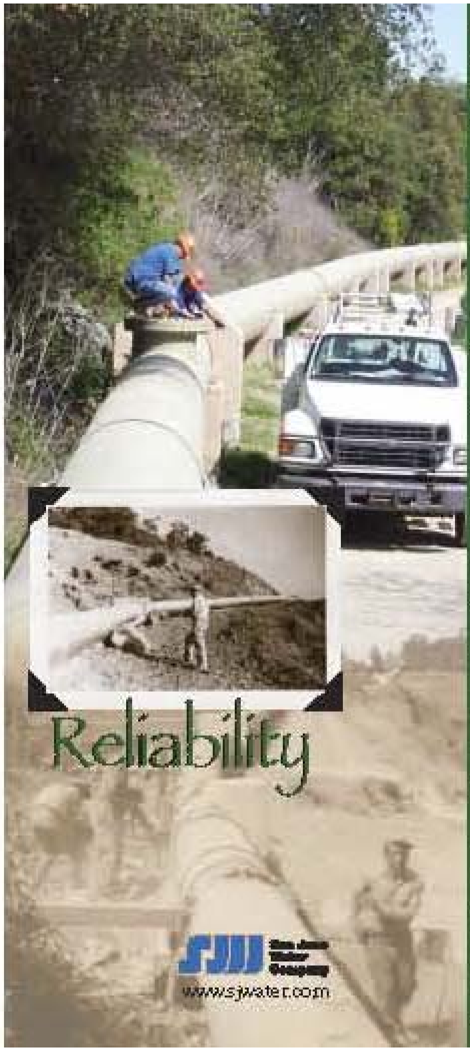
[illegible]

San Jose Water Company

374 West Santa Clara Street, San Jose, CA 95196
(408) 279-7900
Se Habla Español

Photography: Jim Wallbrink • Historical Photos SJWC Archives

Printed on recycled paper 5/04


Reliability

San Jose Water Company
www.sjwater.com

Annual Water Quality Report 2003

San Jose Water Company (SJWC) understands that our customers are concerned about receiving a reliable, safe and secure supply of drinking water. To ensure the quality of the drinking water supply, SJWC has made a significant investment over the past several years to upgrade and maintain our water supply, treatment and distribution facilities. Many of the latest water treatment technologies have been installed in our treatment plants in order to comply with increasingly stringent water quality regulations. In addition, we have continued to work closely with law enforcement, public health officials, national security agencies and other water utilities to develop extra security measures to ensure that our water supply remains safe. We are also proud to report that last year, as in years past, your tap water met or surpassed all United States Environmental Protection Agency (USEPA) and California Department of Health Services (CDHS) drinking water standards.

To ensure that we meet these standards, our highly trained water quality inspectors collect hundreds of samples throughout our distribution system on a weekly basis. The top state-certified laboratories in California perform extensive water quality testing on the collected water samples. SJWC also maintains highly effective cross connection control and systematic main flushing programs to protect our water quality. Finally, our water treatment plant and distribution operators undergo a rigorous licensing process, and they continually receive specialized training on the latest regulations and operating practices.

Reader's Guide

The format and content of this report have been prepared in accordance with the requirements of the Safe Drinking Water Act. Although we test our water supply for over 100 potential contaminants, the vast majority of them are not detected. To simplify the report, the data in the water quality table represents only constituents that have been detected in the water we deliver to our customers. We are also required to provide additional information on some drinking water constituents, and on potential contaminating activities, even though we have met all applicable drinking water standards.

Water Quality Guidance

Source Water Assessment

In December of 2002, SJWC was among the first utilities in the state to complete a comprehensive source water assessment for its wells and surface water supplies in accordance with Safe Drinking Water Act requirements. This comprehensive assessment utilized GIS mapping in conjunction with field surveys to help identify and rank potential contaminating activities to which SJWC's sources may be vulnerable. The assessment is being used to help optimize water quality monitoring programs and to ensure that every precaution possible is being taken to protect source water supplies.

SJWC's wells are considered most vulnerable to one or more of the following activities, which have not been associated with any contaminants detected in the water supply: dry cleaners, automobile gas stations and repair shops, underground storage tanks. Some of SJWC's wells are also considered vulnerable to metal plating and finishing, photo processing/printing, electrical/electronics manufacturing, chemical/petroleum processing/storage, known contaminant plumes and plastics/synthetics producers. SJWC's surface supplies are considered most vulnerable to low density septic systems. Imported surface water that SJWC purchases from Santa Clara Valley Water District (SCVWD) is considered most vulnerable to a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. In addition, local sources are vulnerable to potential contamination from commercial stables and historic mining practices. Although these activities exist in areas near one or more of SJWC's or SCVWD's sources, physical barriers, treatment systems and monitoring programs are in place to ensure that water supplied to our customers is not adversely affected. Customers seeking additional information may view a copy of the assessment during normal business hours at SJWC's offices at 374 West Santa Clara Street, San Jose.

Special Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791. Additional information is available from the CDHS Division of Communicable Disease Control at (510) 540-2566 or the Santa Clara County Department of Environmental Health at (408) 918-3400.

Nitrate

Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or are pregnant, you should ask for advice from your healthcare provider. All water supplied by SJWC is substantially below the 45 ppm MCL, and our monitoring program has been designed to ensure that we do not supply water that is near or above the MCL for nitrate.

Radon

Radon is a radioactive gas that occurs naturally in soils throughout the United States and can be present in the air. In some cases, radon may also be present in groundwater. Radon can be released from water during showering, dishwashing and other household activities. The amount of radon released from tap water is usually very small compared to background levels of radon in the air. Although it is not yet required, SJWC has monitored its groundwater sources for radon in anticipation of new regulations. For more information on radon, call the National Radon Information Line at (800) 767-7236.

Important Definitions

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency. PHGs are purely health-based objectives and may not be technically or economically feasible to achieve. Risk management factors used in setting maximum contaminant levels are not used, and public water systems are not required to meet PHGs.

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA. MCLGs are similar to PHGs, and public water systems are not required to meet them.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the public health goals and maximum contaminant level goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health, set by USEPA.

Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): Action levels are the concentration of a contaminant that triggers a specific treatment technique or other requirement. Action levels are set for some contaminants such as lead and copper.

Parts per Million (ppm): One part per million is the same as one milligram per liter (mg/L). One ppm corresponds to a single penny in $10,000 or one minute in two years.

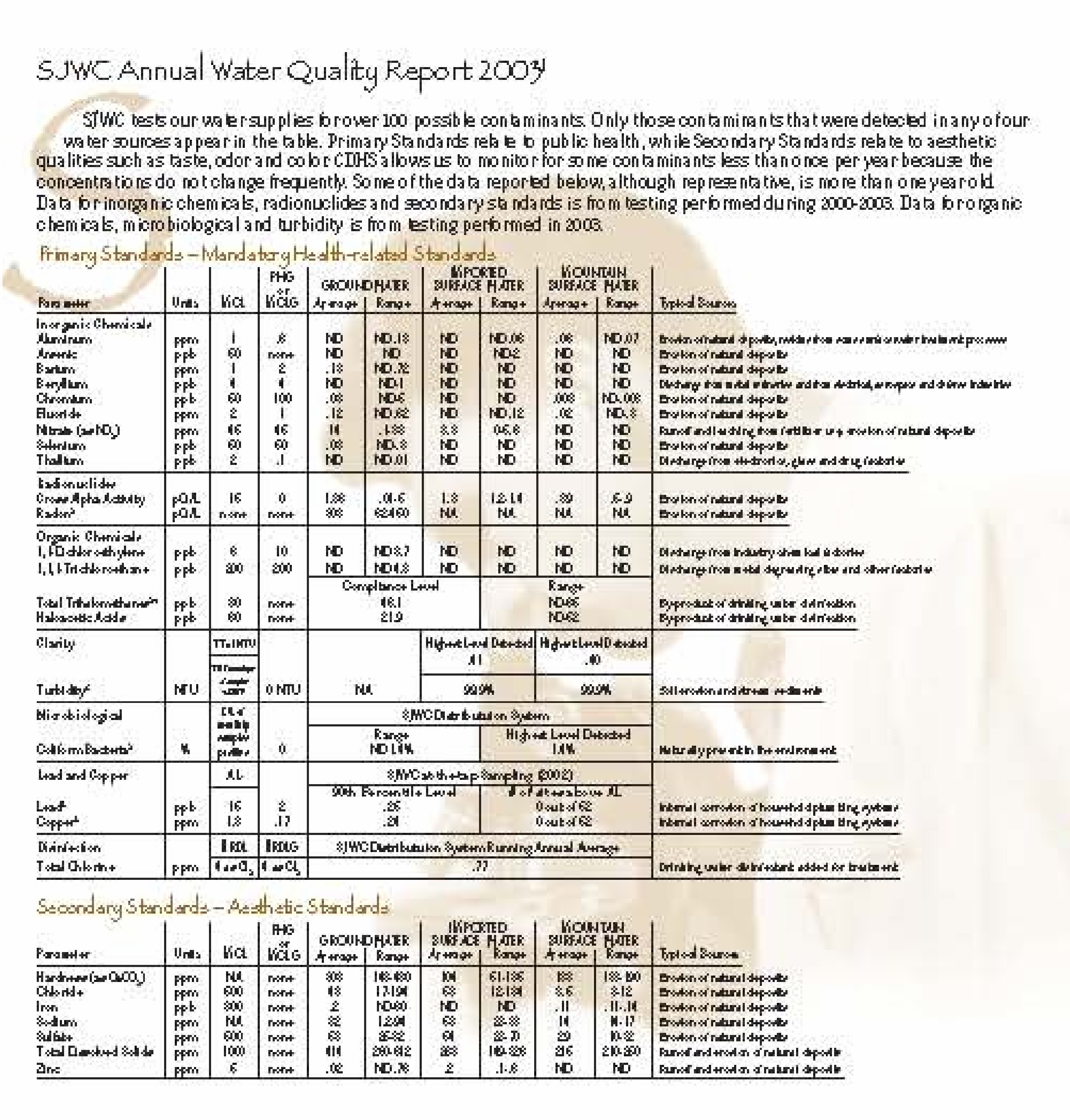
Parts per Billion (ppb): One part per billion is the same as one microgram per liter (µg/L). One ppb corresponds to a single penny in $10,000,000 or one minute in two thousand years.

Detection Limit for Purposes of Reporting (DLR): The lowest level of a constituent that the Department of Health Services requires to be reported.

Nephelometric Turbidity Unit (NTU): This is a measure of the cloudiness of the water.

Not Detected (ND): If a constituent is not measured at or above a DLR, it is reported as Not Detected.

Not Analyzed (NA): Source designated non-vulnerable or testing not required.



SJWC Annual Water Quality Report 2003

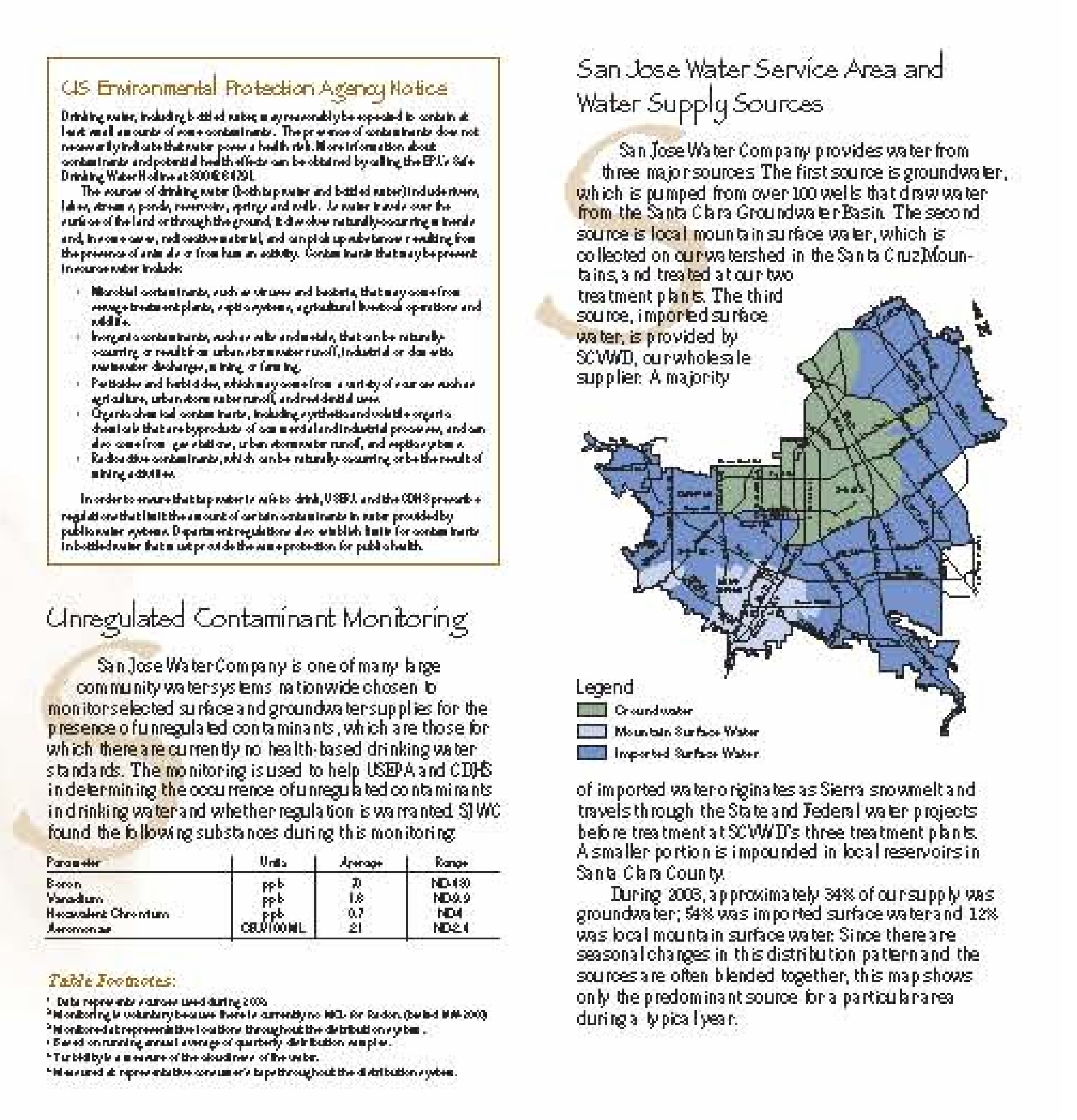
SJWC tests our water supplies for over 100 possible contaminants. Only those contaminants that were detected in any of our water sources appear in the table. Primary Standards relate to public health, while Secondary Standards relate to aesthetic qualities such as taste, odor and color. CDHS allows us to monitor for some contaminants less than once per year because the concentrations do not change frequently. Some of the data reported below, although representative, is more than one year old. Data for inorganic chemicals, radionuclides and secondary standards is from testing performed during 2000-2003. Data for organic chemicals, microbiological and turbidity is from testing performed in 2003.

Primary Standards – Mandatory Health-related Standards

Parameter	Units	MCL	PHG or MCLG	GROUNDWATER Average	GROUNDWATER Range	IMPORTED SURFACE WATER Average	IMPORTED SURFACE WATER Range	MOUNTAIN SURFACE WATER Average	MOUNTAIN SURFACE WATER Range	Typical Sources
Inorganic Chemicals										
Aluminum	ppm	1	.6	ND	ND-.18	ND	ND-.06	.06	ND-.07	Erosion of natural deposits; residue from some surface water treatment processes
Arsenic	ppb	50	none	ND	ND	ND	ND-2	ND	ND	Erosion of natural deposits
Barium	ppm	1	2	.13	ND-.72	ND	ND	ND	ND	Erosion of natural deposits
Beryllium	ppb	4	4	ND	ND-1	ND	ND	ND	ND	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace and defense industries
Chromium	ppb	50	100	.03	ND-5	ND	ND	.008	ND-.008	Erosion of natural deposits
Fluoride	ppm	2	1	.12	ND-.62	ND	ND-.12	.02	ND-.3	Erosion of natural deposits
Nitrate (as NO_3)	ppm	45	45	14	.1-33	3.3	0-5.6	ND	ND	Runoff and leaching from fertilizer use; erosion of natural deposits
Selenium	ppb	50	50	.03	ND-.3	ND	ND	ND	ND	Erosion of natural deposits
Thallium	ppb	2	.1	ND	ND-.01	ND	ND	ND	ND	Discharge from electronics, glass and drug factories
Radionuclides										
Gross Alpha Activity	pCi/L	15	0	1.38	.01-5	1.3	1.2-1.4	.39	.5-.9	Erosion of natural deposits
Radon[2]	pCi/L	none	none	303	62-460	NA	NA	NA	NA	Erosion of natural deposits
Organic Chemicals										
1,1-Dichloroethylene	ppb	6	10	ND	ND-3.7	ND	ND	ND	ND	Discharge from industrial chemical factories
1,1,1-Trichloroethane	ppb	200	200	ND	ND-4.3	ND	ND	ND	ND	Discharge from metal degreasing sites and other factories
				Compliance Level			Range			
Total Trihalomethanes[3]	ppb	80	none	46.1			ND-65			By-product of drinking water disinfection
Haloacetic Acids	ppb	60	none	21.9			ND-52			By-product of drinking water disinfection
Clarity		TT=1 NTU				Highest Level Detected .11		Highest Level Detected .40		
Turbidity[4]	NTU	TT=percentage of samples <.3 NTU	0 NTU	NA		99.9%		99.9%		Soil erosion and stream sediments
Microbiological		5% of monthly samples positive		SJWC Distribution System						
Coliform Bacteria[5]	%		0	Range ND-1.4%			Highest Level Detected 1.4%			Naturally present in the environment
Lead and Copper		AL		SJWC at-the-tap Sampling (2002)						
				90th Percentile Level			# of sites above AL			
Lead[6]	ppb	15	2	.25			0 out of 62			Internal corrosion of household plumbing systems
Copper[6]	ppm	1.3	.17	.21			0 out of 62			Internal corrosion of household plumbing systems
Disinfection		MRDL	MRDLG	SJWC Distribution System Running Annual Average						
Total Chlorine	ppm	4 as Cl_2	4 as Cl_2	.77						Drinking water disinfectant added for treatment

Secondary Standards – Aesthetic Standards

Parameter	Units	MCL	PHG or MCLG	GROUNDWATER Average	GROUNDWATER Range	IMPORTED SURFACE WATER Average	IMPORTED SURFACE WATER Range	MOUNTAIN SURFACE WATER Average	MOUNTAIN SURFACE WATER Range	Typical Sources
Hardness (as $CaCO_3$)	ppm	NA	none	308	148-480	104	61-136	133	133-150	Erosion of natural deposits
Chloride	ppm	500	none	43	17-194	63	12-131	5.5	3-12	Erosion of natural deposits
Iron	ppb	300	none	.2	ND-40	ND	ND	.11	.11-.14	Erosion of natural deposits
Sodium	ppm	NA	none	32	12-94	53	22-33	14	11-17	Erosion of natural deposits
Sulfate	ppm	500	none	63	25-82	61	22-70	29	10-32	Erosion of natural deposits
Total Dissolved Solids	ppm	1000	none	414	280-612	283	149-328	216	210-250	Runoff and erosion of natural deposits
Zinc	ppm	5	none	.02	ND-.76	2	.1-.6	ND	ND	Runoff and erosion of natural deposits



US Environmental Protection Agency Notice

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are byproducts of commercial and industrial processes, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of mining activities.

In order to ensure that tap water is safe to drink, USEPA and the CDHS prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Unregulated Contaminant Monitoring

San Jose Water Company is one of many large community water systems nationwide chosen to monitor selected surface and groundwater supplies for the presence of unregulated contaminants, which are those for which there are currently no health-based drinking water standards. The monitoring is used to help USEPA and CDHS in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted. SJWC found the following substances during this monitoring.

Parameter	Units	Average	Range
Boron	ppb	70	ND-430
Vanadium	ppb	1.8	ND-9.9
Hexavalent Chromium	ppb	0.7	ND-4
Aeromonas	CFU/100 ML	21	ND-2.1

Table Footnotes:

[1] Data represents sources used during 2005.
[2] Monitoring is voluntary because there is currently no MCL for Radon. (tested [illegible] 2003)
[3] Monitored at representative locations throughout the distribution system.
[4] Based on running annual average of quarterly distribution samples.
[5] Turbidity is a measure of the cloudiness of the water.
[6] Measured at representative consumer's taps throughout the distribution system.

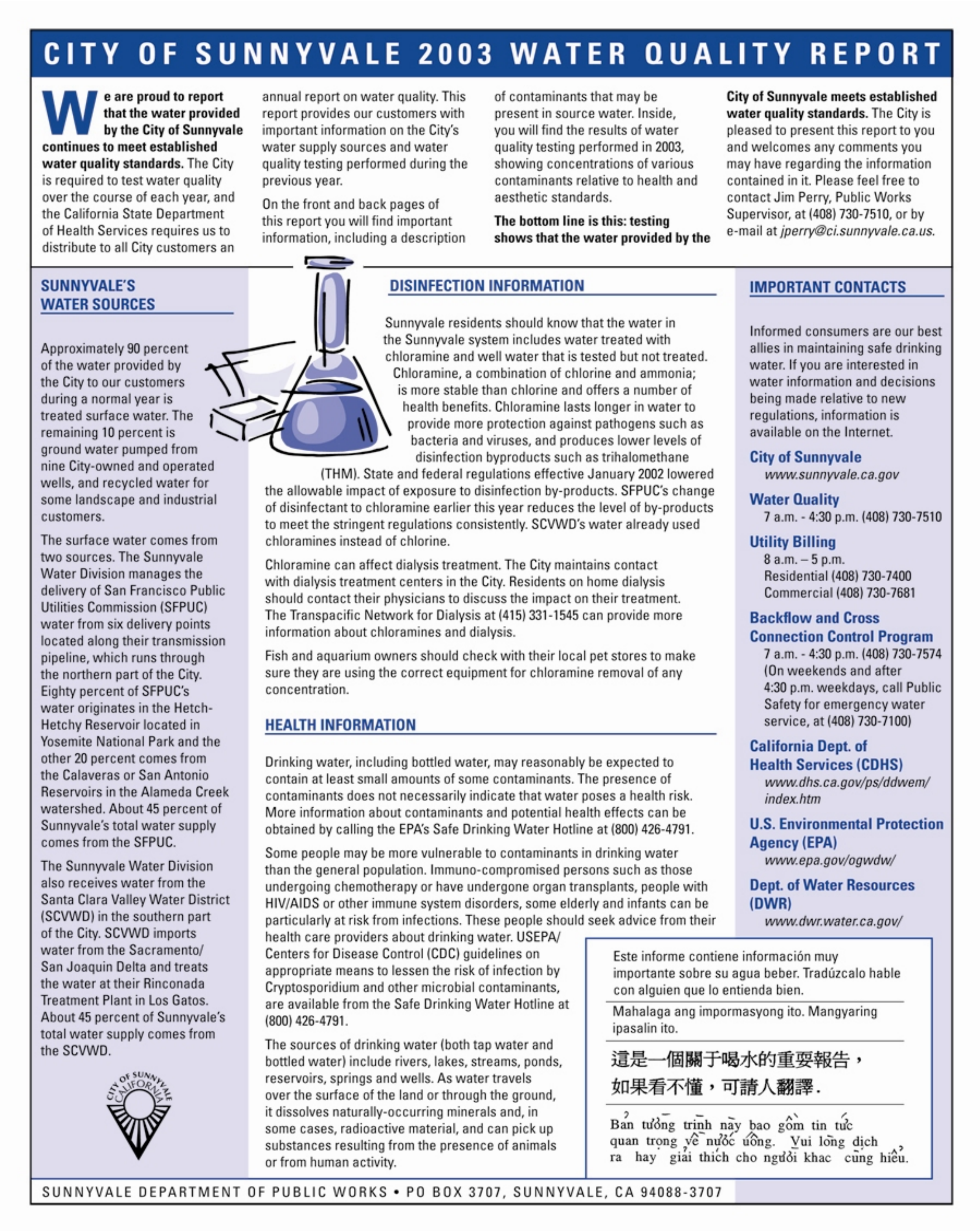
San Jose Water Service Area and Water Supply Sources

San Jose Water Company provides water from three major sources. The first source is groundwater, which is pumped from over 100 wells that draw water from the Santa Clara Groundwater Basin. The second source is local mountain surface water, which is collected on our watershed in the Santa Cruz Mountains, and treated at our two treatment plants. The third source, imported surface water, is provided by SCVWD, our wholesale supplier. A majority of imported water originates as Sierra snowmelt and travels through the State and Federal water projects before treatment at SCVWD's three treatment plants. A smaller portion is impounded in local reservoirs in Santa Clara County.

During 2003, approximately 34% of our supply was groundwater; 54% was imported surface water and 12% was local mountain surface water. Since there are seasonal changes in this distribution pattern and the sources are often blended together, this map shows only the predominant source for a particular area during a typical year.

Legend

🟩 Groundwater
▨ Mountain Surface Water
🟦 Imported Surface Water



CITY OF SUNNYVALE 2003 WATER QUALITY REPORT

We are proud to report that the water provided by the City of Sunnyvale continues to meet established water quality standards. The City is required to test water quality over the course of each year, and the California State Department of Health Services requires us to distribute to all City customers an annual report on water quality. This report provides our customers with important information on the City's water supply sources and water quality testing performed during the previous year.

On the front and back pages of this report you will find important information, including a description of contaminants that may be present in source water. Inside, you will find the results of water quality testing performed in 2003, showing concentrations of various contaminants relative to health and aesthetic standards.

The bottom line is this: testing shows that the water provided by the City of Sunnyvale meets established water quality standards. The City is pleased to present this report to you and welcomes any comments you may have regarding the information contained in it. Please feel free to contact Jim Perry, Public Works Supervisor, at (408) 730-7510, or by e-mail at *jperry@ci.sunnyvale.ca.us.*

SUNNYVALE'S WATER SOURCES

Approximately 90 percent of the water provided by the City to our customers during a normal year is treated surface water. The remaining 10 percent is ground water pumped from nine City-owned and operated wells, and recycled water for some landscape and industrial customers.

The surface water comes from two sources. The Sunnyvale Water Division manages the delivery of San Francisco Public Utilities Commission (SFPUC) water from six delivery points located along their transmission pipeline, which runs through the northern part of the City. Eighty percent of SFPUC's water originates in the Hetch-Hetchy Reservoir located in Yosemite National Park and the other 20 percent comes from the Calaveras or San Antonio Reservoirs in the Alameda Creek watershed. About 45 percent of Sunnyvale's total water supply comes from the SFPUC.

The Sunnyvale Water Division also receives water from the Santa Clara Valley Water District (SCVWD) in the southern part of the City. SCVWD imports water from the Sacramento/San Joaquin Delta and treats the water at their Rinconada Treatment Plant in Los Gatos. About 45 percent of Sunnyvale's total water supply comes from the SCVWD.

DISINFECTION INFORMATION

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia; is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethane (THM). State and federal regulations effective January 2002 lowered the allowable impact of exposure to disinfection by-products. SFPUC's change of disinfectant to chloramine earlier this year reduces the level of by-products to meet the stringent regulations consistently. SCVWD's water already used chloramines instead of chlorine.

Chloramine can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transpacific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis.

Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

HEALTH INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy or have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants, are available from the Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

這是一個關于喝水的重要報告，如果看不懂，可請人翻譯.

Bản tường trình này bao gồm tin tức quan trọng về nước uống. Vui lòng dịch ra hay giải thích cho người khác cũng hiểu.

IMPORTANT CONTACTS

Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.

City of Sunnyvale
www.sunnyvale.ca.gov

Water Quality
7 a.m. - 4:30 p.m. (408) 730-7510

Utility Billing
8 a.m. – 5 p.m.
Residential (408) 730-7400
Commercial (408) 730-7681

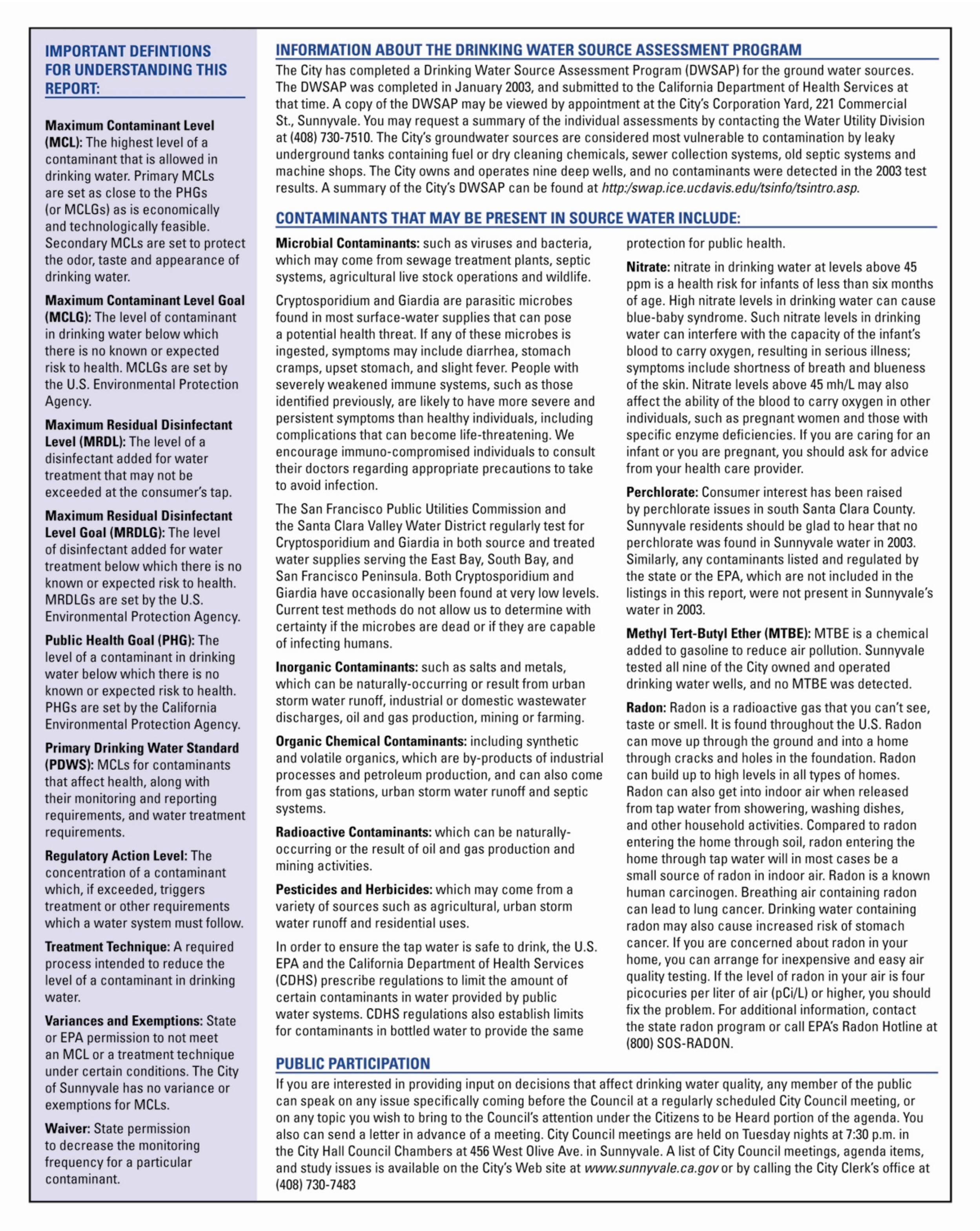
Backflow and Cross Connection Control Program
7 a.m. - 4:30 p.m. (408) 730-7574
(On weekends and after 4:30 p.m. weekdays, call Public Safety for emergency water service, at (408) 730-7100)

California Dept. of Health Services (CDHS)
www.dhs.ca.gov/ps/ddwem/index.htm

U.S. Environmental Protection Agency (EPA)
www.epa.gov/ogwdw/

Dept. of Water Resources (DWR)
www.dwr.water.ca.gov/

SUNNYVALE DEPARTMENT OF PUBLIC WORKS • PO BOX 3707, SUNNYVALE, CA 94088-3707



IMPORTANT DEFINTIONS FOR UNDERSTANDING THIS REPORT:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Variances and Exemptions: State or EPA permission to not meet an MCL or a treatment technique under certain conditions. The City of Sunnyvale has no variance or exemptions for MCLs.

Waiver: State permission to decrease the monitoring frequency for a particular contaminant.

INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the ground water sources. The DWSAP was completed in January 2003, and submitted to the California Department of Health Services at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Division at (408) 730-7510. The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry cleaning chemicals, sewer collection systems, old septic systems and machine shops. The City owns and operates nine deep wells, and no contaminants were detected in the 2003 test results. A summary of the City's DWSAP can be found at *http:/swap.ice.ucdavis.edu/tsinfo/tsintro.asp*.

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

Microbial Contaminants: such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural live stock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The San Francisco Public Utilities Commission and the Santa Clara Valley Water District regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

Inorganic Contaminants: such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemical Contaminants: including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Radioactive Contaminants: which can be naturally-occurring or the result of oil and gas production and mining activities.

Pesticides and Herbicides: which may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

In order to ensure the tap water is safe to drink, the U.S. EPA and the California Department of Health Services (CDHS) prescribe regulations to limit the amount of certain contaminants in water provided by public water systems. CDHS regulations also establish limits for contaminants in bottled water to provide the same protection for public health.

Nitrate: nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mh/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask for advice from your health care provider.

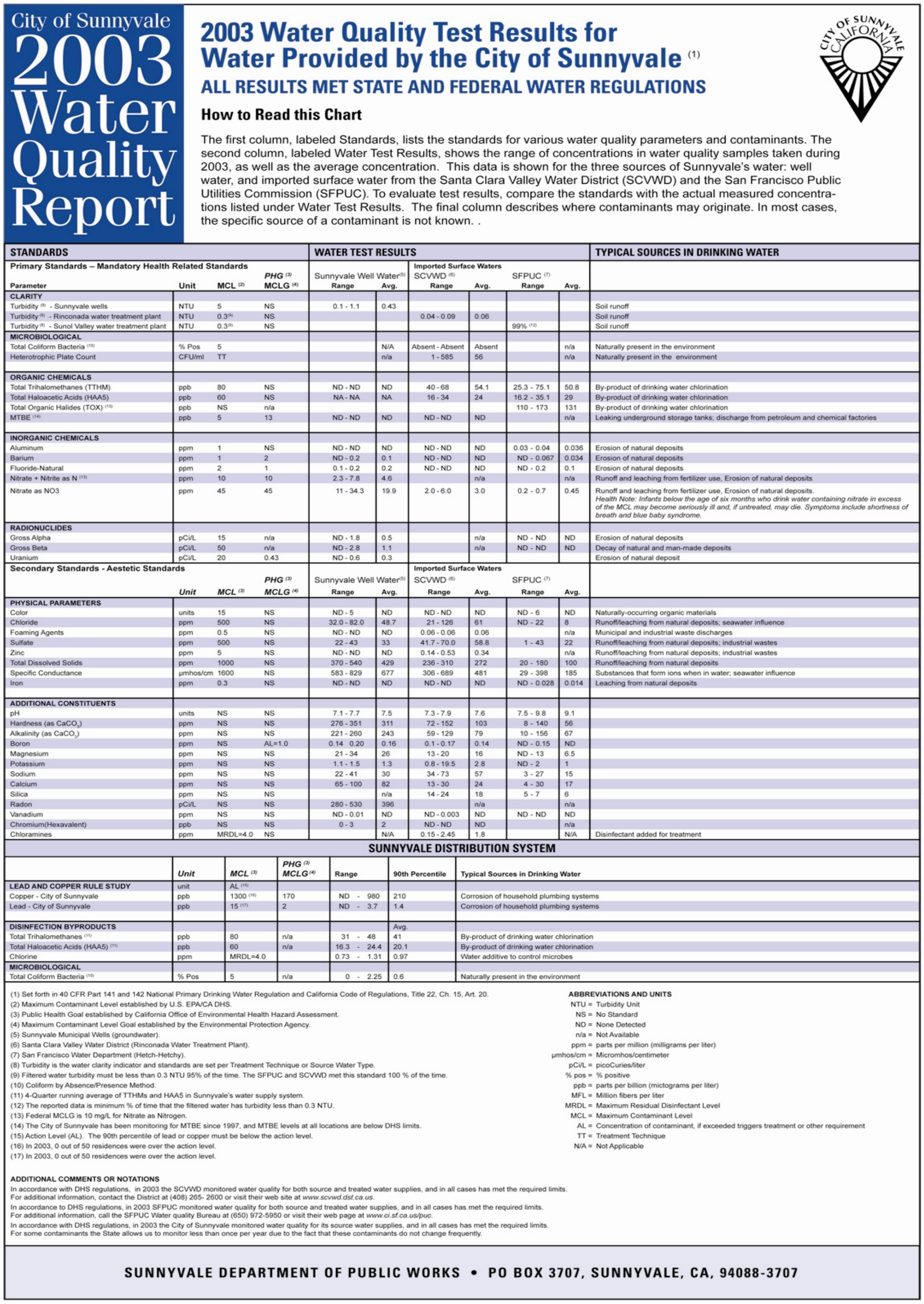
Perchlorate: Consumer interest has been raised by perchlorate issues in south Santa Clara County. Sunnyvale residents should be glad to hear that no perchlorate was found in Sunnyvale water in 2003. Similarly, any contaminants listed and regulated by the state or the EPA, which are not included in the listings in this report, were not present in Sunnyvale's water in 2003.

Methyl Tert-Butyl Ether (MTBE): MTBE is a chemical added to gasoline to reduce air pollution. Sunnyvale tested all nine of the City owned and operated drinking water wells, and no MTBE was detected.

Radon: Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is four picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the state radon program or call EPA's Radon Hotline at (800) SOS-RADON.

PUBLIC PARTICIPATION

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting. City Council meetings are held on Tuesday nights at 7:30 p.m. in the City Hall Council Chambers at 456 West Olive Ave. in Sunnyvale. A list of City Council meetings, agenda items, and study issues is available on the City's Web site at *www.sunnyvale.ca.gov* or by calling the City Clerk's office at (408) 730-7483



City of Sunnyvale
2003
Water
Quality
Report

2003 Water Quality Test Results for Water Provided by the City of Sunnyvale (1)

ALL RESULTS MET STATE AND FEDERAL REGULATIONS

How to Read this Chart

The first column, labeled Standards, lists the standards for various water quality parameters and contaminants. The second column, labeled Water Test Results, shows the range of concentrations in water quality samples taken during 2003, as well as the average concentration. This data is shown for the three sources of Sunnyvale's water: well water, and imported surface water from the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). To evaluate test results, compare the standards with the actual measured concentrations listed under Water Test Results. The final column describes where contaminants may originate. In most cases, the specific source of a contaminant is not known. .

STANDARDS				**WATER TEST RESULTS**						**TYPICAL SOURCES IN DRINKING WATER**
Primary Standards – Mandatory Health Related Standards						**Imported Surface Waters**				
			PHG (3)	Sunnyvale Well Water(5)		SCVWD (6)		SFPUC (7)		
Parameter	**Unit**	**MCL** (2)	**MCLG** (4)	**Range**	**Avg.**	**Range**	**Avg.**	**Range**	**Avg.**	
CLARITY										
Turbidity (8) - Sunnyvale wells	NTU	5	NS	0.1 - 1.1	0.43					Soil runoff
Turbidity (8) - Rinconada water treatment plant	NTU	0.3(9)	NS			0.04 - 0.09	0.06			Soil runoff
Turbidity (8) - Sunol Valley water treatment plant	NTU	0.3(9)	NS					99% (12)		Soil runoff
MICROBIOLOGICAL										
Total Coliform Bacteria (10)	% Pos	5			N/A	Absent - Absent	Absent		n/a	Naturally present in the environment
Heterotrophic Plate Count	CFU/ml	TT			n/a	1 - 585	56		n/a	Naturally present in the environment
ORGANIC CHEMICALS										
Total Trihalomethanes (TTHM)	ppb	80	NS	ND - ND	ND	40 - 68	54.1	25.3 - 75.1	50.8	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5)	ppb	60	NS	NA - NA	NA	16 - 34	24	16.2 - 35.1	29	By-product of drinking water chlorination
Total Organic Halides (TOX) (13)	ppb	NS	n/a					110 - 173	131	By-product of drinking water chlorination
MTBE (14)	ppb	5	13	ND - ND	ND	ND - ND	ND		n/a	Leaking underground storage tanks; discharge from petroleum and chemical factories
INORGANIC CHEMICALS										
Aluminum	ppm	1	NS	ND - ND	ND	ND - ND	ND	0.03 - 0.04	0.036	Erosion of natural deposits
Barium	ppm	1	2	ND - 0.2	0.1	ND - ND	ND	ND - 0.067	0.034	Erosion of natural deposits
Fluoride-Natural	ppm	2	1	0.1 - 0.2	0.2	ND - ND	ND	ND - 0.2	0.1	Erosion of natural deposits
Nitrate + Nitrite as N (13)	ppm	10	10	2.3 - 7.8	4.6		n/a		n/a	Runoff and leaching from fertilizer use, Erosion of natural deposits
Nitrate as NO3	ppm	45	45	11 - 34.3	19.9	2.0 - 6.0	3.0	0.2 - 0.7	0.45	Runoff and leaching from fertilizer use, Erosion of natural deposits. *Health Note: Infants below the age of six months who drink water containing nitrate in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.*
RADIONUCLIDES										
Gross Alpha	pCi/L	15	n/a	ND - 1.8	0.5		n/a	ND - ND	ND	Erosion of natural deposits
Gross Beta	pCi/L	50	n/a	ND - 2.8	1.1		n/a	ND - ND	ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	ND - 0.6	0.3					Erosion of natural deposit
Secondary Standards - Aestetic Standards						**Imported Surface Waters**				
			PHG (3)	Sunnyvale Well Water(5)		SCVWD (6)		SFPUC (7)		
	Unit	***MCL*** (3)	***MCLG*** (4)	**Range**	**Avg.**	**Range**	**Avg.**	**Range**	**Avg.**	
PHYSICAL PARAMETERS										
Color	units	15	NS	ND - 5	ND	ND - ND	ND	ND - 6	ND	Naturally-occurring organic materials
Chloride	ppm	500	NS	32.0 - 82.0	48.7	21 - 126	61	ND - 22	8	Runoff/leaching from natural deposits; seawater influence
Foaming Agents	ppm	0.5	NS	ND - ND	ND	0.06 - 0.06	0.06		n/a	Municipal and industrial waste discharges
Sulfate	ppm	500	NS	22 - 43	33	41.7 - 70.0	58.8	1 - 43	22	Runoff/leaching from natural deposits; industrial wastes
Zinc	ppm	5	NS	ND - ND	ND	0.14 - 0.53	0.34		n/a	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids	ppm	1000	NS	370 - 540	429	236 - 310	272	20 - 180	100	Runoff/leaching from natural deposits
Specific Conductance	µmhos/cm	1600	NS	583 - 829	677	306 - 689	481	29 - 398	185	Substances that form ions when in water; seawater influence
Iron	ppm	0.3	NS	ND - ND	ND	ND - ND	ND	ND - 0.028	0.014	Leaching from natural deposits
ADDITIONAL CONSTITUENTS										
pH	units	NS	NS	7.1 - 7.7	7.5	7.3 - 7.9	7.6	7.5 - 9.8	9.1	
Hardness (as $CaCO_3$)	ppm	NS	NS	276 - 351	311	72 - 152	103	8 - 140	56	
Alkalinity (as $CaCO_3$)	ppm	NS	NS	221 - 260	243	59 - 129	79	10 - 156	67	
Boron	ppm	NS	AL=1.0	0.14 0.20	0.16	0.1 - 0.17	0.14	ND - 0.15	ND	
Magnesium	ppm	NS	NS	21 - 34	26	13 - 20	16	ND - 13	6.5	
Potassium	ppm	NS	NS	1.1 - 1.5	1.3	0.8 - 19.5	2.8	ND - 2	1	
Sodium	ppm	NS	NS	22 - 41	30	34 - 73	57	3 - 27	15	
Calcium	ppm	NS	NS	65 - 100	82	13 - 30	24	4 - 30	17	
Silica	ppm	NS	NS		n/a	14 - 24	18	5 - 7	6	
Radon	pCi/L	NS	NS	280 - 530	396		n/a		n/a	
Vanadium	ppm	NS	NS	ND - 0.01	ND	ND - 0.003	ND	ND - ND	ND	
Chromium(Hexavalent)	ppb	NS	NS	0 - 3	2	ND - ND	ND		n/a	
Chloramines	ppm	MRDL=4.0	NS		N/A	0.15 - 2.45	1.8		N/A	Disinfectant added for treatment

SUNNYVALE DISTRIBUTION SYSTEM

	Unit	***MCL*** (3)	***PHG*** (3) ***MCLG*** (4)	**Range**	**90th Percentile**	**Typical Sources in Drinking Water**
LEAD AND COPPER RULE STUDY	unit	AL (15)				
Copper - City of Sunnyvale	ppb	1300 (16)	170	ND - 980	210	Corrosion of household plumbing systems
Lead - City of Sunnyvale	ppb	15 (17)	2	ND - 3.7	1.4	Corrosion of household plumbing systems
DISINFECTION BYPRODUCTS					Avg.	
Total Trihalomethanes (11)	ppb	80	n/a	31 - 48	41	By-product of drinking water chlorination
Total Haloacetic Acids (HAA5) (11)	ppb	60	n/a	16.3 - 24.4	20.1	By-product of drinking water chlorination
Chlorine	ppm	MRDL=4.0		0.73 - 1.31	0.97	Water additive to control microbes
MICROBIOLOGICAL						
Total Coliform Bacteria (10)	% Pos	5	n/a	0 - 2.25	0.6	Naturally present in the environment

(1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Ch. 15, Art. 20.
(2) Maximum Contaminant Level established by U.S. EPA/CA DHS.
(3) Public Health Goal established by California Office of Environmental Health Hazard Assessment.
(4) Maximum Contaminant Level Goal established by the Environmental Protection Agency.
(5) Sunnyvale Municipal Wells (groundwater).
(6) Santa Clara Valley Water District (Rinconada Water Treatment Plant).
(7) San Francisco Water Department (Hetch-Hetchy).
(8) Turbidity is the water clarity indicator and standards are set per Treatment Technique or Source Water Type.
(9) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100 % of the time.
(10) Coliform by Absence/Presence Method.
(11) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system.
(12) The reported data is minimum % of time that the filtered water has turbidity less than 0.3 NTU.
(13) Federal MCLG is 10 mg/L for Nitrate as Nitrogen.
(14) The City of Sunnyvale has been monitoring for MTBE since 1997, and MTBE levels at all locations are below DHS limits.
(15) Action Level (AL). The 90th percentile of lead or copper must be below the action level.
(16) In 2003, 0 out of 50 residences were over the action level.
(17) In 2003, 0 out of 50 residences were over the action level.

ABBREVIATIONS AND UNITS
NTU = Turbidity Unit
NS = No Standard
ND = None Detected
n/a = Not Available
ppm = parts per million (milligrams per liter)
µmhos/cm = Micromhos/centimeter
pCi/L = picoCuries/liter
% pos = % positive
ppb = parts per billion (mictograms per liter)
MFL = Million fibers per liter
MRDL = Maximum Residual Disinfectant Level
MCL = Maximum Contaminant Level
AL = Concentration of contaminant, if exceeded triggers treatment or other requirement
TT = Treatment Technique
N/A = Not Applicable

ADDITIONAL COMMENTS OR NOTATIONS

In accordance with DHS regulations, in 2003 the SCVWD monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265- 2600 or visit their web site at *www.scvwd.dst.ca.us*.

In accordance to DHS regulations, in 2003 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water quality Bureau at (650) 972-5950 or visit their web page at *www.ci.sf.ca.us/puc*.

In accordance with DHS regulations, in 2003 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently.

SUNNYVALE DEPARTMENT OF PUBLIC WORKS • PO BOX 3707, SUNNYVALE, CA, 94088-3707

Appendix F

Ordinance 90-1

The District's Well Ordinance

Appendix F

SANTA CLARA VALLEY
WATER DISTRICT

ORDINANCE NO. 90-1

AN ORDINANCE OF SANTA CLARA VALLEY WATER DISTRICT REGULATING THE CLASSIFICATION, CONSTRUCTION AND DESTRUCTION OF WELLS AND OTHER DEEP EXCAVATIONS; REQUIRING THE DESTRUCTION OF ABANDONED OR UNUSED WELLS; ADOPTING WATER CONTAMINATION HAZARD STANDARDS; MAKING VIOLATION A MISDEMEANOR; AND REPEALING ORDINANCE NO. 85-1

Santa Clara Valley Water District
5750 Almaden Expressway, San Jose, CA 95118 (408) 265-2600

Appendix F

TABLE OF CONTENTS

Page

Section 1: Purpose 3
Section 2: Classification of Wells 3
Section 3: Definitions................................. 4
Section 4: State Reporting 5
Section 5: Prohibitions 5
Section 6: Permit Procedures 6
Section 7: Standards.................................. 8
Section 8: Right of Hearing 9
Section 9: Entry and Inspection.............. 10
Section 10: Enforcement 10
Section 11: Prior Ordinances 11
Section 12: Severability 11
Section 13: Effective Date 12

The Board of Directors of Santa Clara Valley Water District do ordain as follows:

Section 1: Purpose

1.1. It is the purpose of this Ordinance to provide within the District for the classification of existing wells; to regulate the construction of new wells; the reconstruction or deepening of existing wells, and the destruction of wells, including water wells, monitoring wells, cathodic protection wells, exploratory holes, and other deep excavations, to the end that such wells and excavations will not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety, or welfare of the people of the District.

Section 2: Classification of Wells

2.1. All wells within Santa Clara County will be placed into one of the three following classifications: (1) "Active Well," (2) "Inactive Well," or (3) "Abandoned or Unused Well."

2.2. ***Active Well**:* An active well is a well that has been utilized at least once in the preceding 12 months for the extraction of groundwater. Active wells within groundwater production charge zones of the District are subject to the District's groundwater production requirements and require, pursuant to the District Act, the filing of groundwater production statements.

   a. If the pump from an active water well has been removed for repair or replacement, the well is still considered to be an active well. During the repair period, the well shall be adequately covered to prevent injury to people and to prevent the entrance of undesirable water or foreign matter.

2.3. ***Inactive or Standby Well**:* An inactive or standby well means a well that has not been used for a period of 1 year or more for the production of groundwater but is maintained in such a condition that it could be so used, or a monitoring well maintained for such use, or a cathodic protection well maintained for such use.

   a. The owner of a well who desires to place or maintain it in the above classification shall obtain from the District, at intervals set by the District, a permit verifying the classification.

   b. As evidence of the owner's intention regarding continued use and as conditions of the permit, the owner shall properly maintain the well in such a way that:

      1. The well has no defects which will permit the impairment of quality of water in the well or in the water-bearing formation penetrated.

      2. The well head is appropriately protected to prevent accidental entry and to prevent the entrance of undesirable water or foreign matter.

3. The well is marked so that it can be clearly seen.

4. The area surrounding the well is kept clear of brush or debris.

c. Wells used for monitoring are considered inactive wells so long as they are maintained for this purpose. However, such wells shall be in compliance with this Ordinance and bear an appropriate cap, with the label, “Monitoring Well,” and the name of the agency or organization using the well. It shall be securely locked when not in use.

d. Cathodic protection wells or test wells deep enough to promote interaquifer transfer of groundwater shall be considered inactive wells as long as they remain functional.

2.4. ***Abandoned or Unused Well***: An abandoned or unused well may be defined under one or more of the following:

a. A well, other than a monitoring well, which has been out of service continuously for 1 year or more, and does not meet the definition of a standby well.

b. A monitoring well from which no measurement or sample has been taken for a period of 3 years.

c. A well which is in such a state of disrepair that it cannot be made operational for its intended purpose.

d. A test hole or exploratory boring 24 hours after construction and testing work has been completed.

e. A cathodic protection well that is no longer functional for its original purpose.

f. Any boring that cannot be satisfactorily completed as a well.

2.5. The determination as to the status of a well will be made by the District.

Section 3: Definitions

3.1. Definitions of terms shall be as set forth from time to time in: (1) Chapter II and Appendix I of the Department of Water Resources Bulletin No. 74, “Water Well Standards: State of California;” (2) “Standards for the Construction and Destruction of Wells and Other Deep Excavations in Santa Clara County,” by the Santa Clara Valley Water District, referenced in Section 7 of this Ordinance, and (3) as set forth below:

a. “Board” shall mean the Board of Directors of the Santa Clara Valley Water District.

b. “District” shall mean the Santa Clara Valley Water District.

c. “General Manager” shall mean the General Manager of the Santa Clara Valley Water District or his or her designee.

d. “Health Department” shall mean the Santa Clara County Health Department.

e. “Inspecting Officer” shall mean a person designated by the General Manager and authorized to ensure that the provisions of this Ordinance are enforced. Such person will be a member of staff of the District or the Health Department.

f. “Person,” as used in this Ordinance, shall mean any person, association, firm, corporation, municipality, the County of Santa Clara, special district, or public agency.

g. “Water Contamination Hazard:” Pursuant to Section 6.1 of the Santa Clara Valley Water District Act, the Board hereby declares that a water contamination hazard is a condition created by wells or deep excavations into which water will or may foreseeably flow, where that water contains contaminants in excess of the applicable standard currently promulgated by the California Department of Health Services or which is the subject of a cleanup order issued by the cognizant Regional Water Quality Control Board.

h. Tense or Gender: Words used in the present tense include the future as well as the present. Words used in the masculine gender include the feminine and neuter. The singular number includes the plural, and the plural, the singular.

i. Section Headings, when contained in this Ordinance, shall not be deemed to govern, limit, modify, or in any manner affect the scope, meaning, or intent of the provisions of any section.

Section 4: State Reporting

4.1. Nothing contained in this Ordinance shall be deemed to release any person from compliance with the provisions of Article 3, Chapter 10, Division 7 of the Water Code of the State of California or any amendment thereto.

Section 5: Prohibitions

5.1. No person within the County of Santa Clara shall construct, modify, or destroy a well unless a written permit has been first obtained from the District.

5.2. To prevent the contamination of underground water supplies through open wells, no person within the County of Santa Clara shall knowingly permit the existence on premises in his or her ownership or possession and control of any well opening or entrance which is not sealed or secured in such a way as to prevent the introduction of contaminants.

5.3. No person within the County of Santa Clara shall knowingly permit the existence of any abandoned well on premises in his or her ownership or possession and control.

Section 6: Permit Procedures

6.1. ***When Permit Required***: No person shall dig, bore, drill, deepen, modify, repair, or destroy a water well, cathodic protection well, observation well, monitoring well, or any other excavation that may intersect groundwater without first applying for and receiving a permit as provided in this Ordinance unless exempted by law.

6.2. ***Penalty for Failure to Obtain Permit***: In addition to the requirements of Section 10 hereof, any person who shall commence any work for which a permit is required by this Ordinance without having obtained a permit shall be required, if subsequently granted a permit for this work, to pay double the standard permit fee.

6.3. ***Emergency Work***: The above provisions shall not apply to emergency work required on short notice to maintain drinking water or agricultural supply systems. In such cases, the person responsible for the emergency work shall:

a. Satisfy the District that the work was urgently necessary, and

b. Demonstrate that all work performed was done in conformance with the technical standards as designated in Section 7.

6.4. ***Application***: Permits required by this Ordinance shall be subject to conditions set forth in this Ordinance or as required by law. The General Manager shall prescribe and provide a standard form of application for permits under the terms of this Ordinance. The application form shall contain space for the name and address of the applicant, together with such information as, in the judgment of the General Manager, is necessary to establish the location of the well, the purpose of the permit, and the extent of any proposed work. When required by the District, drawings and specifications for any proposed work shall accompany the application form and shall be detailed enough to demonstrate compliance with the standards.

6.5. ***Fees***: Fees to cover District costs required for the review of applications, issuance of permits, Board hearings of appeals, and inspection of work under this Ordinance, and the method of payment of such fees, may be as established and adopted by the Board from time to time by resolution.

6.6. ***Payment of Fees and Costs, Waiver***: At the recommendation of the General Manager and approval by the Board, all or any part of the fees and costs of compliance with this Ordinance may be waived or paid by the District in accordance with such guidelines and procedures as may be established by the Board.

6.7. ***Abandoned Wells***: As a condition of a construction or reconstruction permit, any abandoned wells on the property shall be destroyed in accordance with standards provided in this Ordinance.

6.8. ***Posting of Permit***: It shall be the responsibility of the permittee to maintain a copy of the permit on the drilling site during all stages of construction or destruction.

6.9. ***Permit—Denial***: The District shall deny an application for a permit if, in its judgment, issuance of a permit is not in the public interest.

6.10. ***Limitations***: When the District issues a permit pursuant to this Ordinance, it may condition the permit in any manner necessary to carry out the purposes of this Ordinance. Conditions may include, but are not limited to, such quantity and quality testing methods as the District finds necessary.

6.11. ***Persons Permitted to Work on Wells***: All construction, reconstruction, or destruction work on wells shall be performed by a person who possesses an active C-57 contractor's license in accordance with the provisions of the California Business and Professions Code, Section 7000, et seq. and Water Code Section 13750.5.

6.12. ***Terms of Permit and Completion of Work***: Work authorized by a permit issued pursuant to this Ordinance shall begin within one hundred eighty (180) calendar days from the date of issuance of the permit unless a different starting date is stated in the permit. If the work is not so begun, the permit shall become void. The permittee shall notify the District at least one (1) working day before starting any work authorized by the permit. Subject to revocation, as hereinafter specified, the permit shall be valid for a term of one (1) year from the date of issuance unless a lesser term is specified. The permittee shall complete the work authorized by the permit within the time specified in the permit. If, at any time, the General Manager determines that any delay in the prosecution or completion of the work authorized is due to lack of reasonable diligence on the part of the permittee, the General Manager may, following due notice to the permittee and an opportunity to be heard, revoke the permit. The General Manager may, upon good cause being shown, extend the permit for an additional maximum period of six (6) months. Further extensions may be granted only by the Board.

6.13. ***Ordered Additional Work***: Upon suspending or revoking any permit, the District may order the permittee to perform any work reasonably necessary to protect the underground waters from pollution or contamination, if any work already done by the permittee has left a well in such a condition as to constitute a hazard to the quality of the underground waters. No permittee or person who has held any permit issued pursuant to the Ordinance shall fail to comply with any such order.

6.14. ***Guarantee of Performance***: Prior to the issuance of a permit, the applicant shall post with the General Manager a cash deposit or bond guaranteeing compliance with the terms of this Ordinance, in an amount determined by the General Manager as necessary to protect the District and public against faulty or uncompleted work. The amount shall not exceed the total estimated cost of the work. The deposit or bond may be waived if the General Manager determines that other assurances of compliance are adequate.

6.15. ***Liability***: A permittee shall assume all liability imposed by law for personal injury or property damage resulting from any work performed by the permittee or his or her agent under the permit, or resulting from failure of the permittee to perform each obligation under said permit. If any claim of such liability is made against the District, its officers, employees, or agents, the permittee shall defend, indemnify, and hold them and each of them harmless from such claim.

6.16. ***Variances***: The District shall have the power under the following specified conditions to grant a variance from any provision of the standards referenced above and to prescribe alternative requirements in their place.

a. *Special Circumstances*: There must be, in a specific case, a special circumstance where practical difficulties or unnecessary hardship would result from the strict interpretation and enforcement of any standard.

b. *Intent of Ordinance Not Compromised*: The granting of such a variance shall be consistent with the purposes of this Ordinance.

6.17. ***Special Groundwater Protection Areas***: The District may designate areas where groundwater quality problems are known to exist and where a well will penetrate more than one aquifer. The District may require in these designated areas special well seal(s) to prevent mixing of water from several aquifers. Where an applicant proposes well construction, reconstruction, or destruction work in such an area, the District may require the applicant to provide a report prepared by a Registered Geologist or Registered Civil Engineer (California Business and Professions Code Sections 7850 and 6762, respectively) that identifies all strata contained poor quality water and recommends the location and specifications of the seal or seals needed to prevent the entrance of poor quality water or its migration into other aquifers.

Section 7: Standards

7.1. Standards for the construction and destruction of wells and other deep excavations will be in accordance with the latest revisions of both the District Well Standards and Department of Water Resources Bulletin 74-81, and all subsequent supplements and revisions to either.

7.2. ***Destruction of Abandoned Wells***: All persons owning an abandoned well as defined in the well standards shall destroy it or cause it to be destroyed before December 13, 1991, except those excluded by California Health and Safety Code Section 24440.

7.3. ***Inspections***: The District shall make an inspection of the annular seal placement upon construction or reconstruction of a well and of the grouting of wells to be destroyed. It may make an initial inspection of each proposed work site, an inspection at the completion of the work, and inspections at such other times as it deems appropriate.

7.4. ***Required Notice***: The District shall be notified a minimum of twenty-four (24) hours prior to sealing the annular space and prior to destruction of a well. Drillers who anticipate completing a well in less than 1 day shall notify the District twenty-four (24) hours prior to commencement of drilling and provide the anticipated time to commence the sealing of the annular space.

7.5. ***Should the District Fail to be Present***: If the District wishes to allow a seal to be tremied and placed or a well destroyed without inspection, the driller shall seal the well in accordance with the standards of this Ordinance and any permit conditions. No seal shall be tremied or placed or a well destroyed until permission to proceed is given.

7.6. ***Final Inspection***: If requested by the District, the driller shall notify the District within seven (7) calendar days of the completion of the work at each drilling site. The District may make a final inspection after completion of the work to determine whether the well was completed in accordance with this Ordinance.

7.7. ***Submittal of State "Report of Completion"***: A copy of the "Report of Completion" (Water Well Driller's Report, Department of Water Resources Form 188) required by California Water Code Section 13751, shall be submitted by the permittee to the District within thirty (30) calendar days of construction, alteration, or destruction of any well. This report shall document that the work was completed in accordance with the standards and all additional permit conditions.

7.8. ***Confidentiality of Report***: In accordance with California Water Code Section 13752, reports made in accordance with Section 7.8 above, will not be made available for inspection by the public but shall be made available for inspection by governmental agencies for use in making studies. Reports shall be made available to any person who obtains written authorization from the owner of the well.

7.9. ***Requirements of Other Agencies***: Nothing in this Ordinance shall be deemed to excuse any person from compliance with the provisions of California Water Code Section 13750 through 13755 relating to notices and reports of completion or any other federal, state, or local reporting regulations.

Section 8: Right of Hearing

8.1. ***Review and Appeal***: Any person aggrieved by the refusal to issue a permit, by the terms of a permit, or by any District decision made under this Ordinance, shall have the right of review and appeal.

a. The aggrieved person may, upon written request, have the matter reviewed by the General Manager. Upon receipt of such a written request, the General Manager shall schedule the same for review within thirty (30) calendar days and give applicant at least fourteen (14) calendar days written notice of the time and place of said review unless applicant agrees to a lesser time.

b. If the applicant is not satisfied with the results of the review by the General Manager, an appeal may be presented to the Board.

c. The appeal to the Board shall be in writing and made within fourteen (14) calendar days after the General Manager's review. It shall specify the grounds upon which it is taken, and shall be accompanied by a filing fee as established by the Board. The Clerk of the Board shall set the appeal for hearing at the earliest practicable time, and shall notify the appellant, in writing, of the time so set at least five (5) days prior to the hearing. After the hearing, the Board may reverse in whole or in part, or may modify the order or determination appealed from. The action of the Board shall be final and conclusive.

Section 9: Entry and Inspection

9.1. ***Right of Entry and Inspection***: Representatives of the District shall have the right to entry upon any premises at all reasonable times to make inspections and tests for the purpose of such enforcement and administration. The representative shall first present proper credentials and demand entry. If premises are unoccupied, a reasonable effort will be made to locate the owner or other person having charge or control of same. If entry is refused, recourse will be had to such remedies as are provided by law to secure entry.

Section 10: Enforcement

10.1. ***Notice of Violation***: Whenever the District determines that a well (a) has not been completed, constructed, or destroyed in accordance with a permit or the plans and specifications relating thereto; (b) has been completed, constructed, or destroyed without the required permit; or (c) has been abandoned and not been destroyed in accordance with the provisions of this Ordinance, the District may record a Notice of Violation with the Office of the County Recorder. The owner(s) of the property, as revealed by the assessment roll, on which the violation is situated and any other person responsible for the violation shall be notified of the recordation, if their respective addresses are available.

10.2. ***Appeal***: If the property owner(s) or authorized agent disagree with the determination, he or she may submit evidence to the District indicating that there is no violation and then shall have the right to appeal an adverse decision of the District to the Board in accordance with the provisions of Section 8 hereof.

10.3. ***Notice of Public Nuisance***: Whenever the District determines that a public nuisance as defined by Section 6.1 of the Santa Clara Valley Water District Act exists, the General Manager shall proceed in accordance with said Act to initiate proceedings to abate the same.

10.4. ***Emergency Abatement***: If the General Manager finds that a well subject to this Ordinance is, by reason of condition, operation or maintenance, causing significant irreparable damage to the groundwater or presents an immediate danger to health and safety, and that it is impracticable to notify the owner or permittee, the General Manager may perform emergency work necessary to abate the condition without giving notice as above required, and the owner of the land, as shown on the last equalized assessment roll, shall be liable for the cost thereof.

10.5. ***Removal of Violation Notice***: The District shall submit a removal of Notice of Violation to the county recorder when (a) it is determined by the District, after review, that no violation of this Ordinance exists or (b) all required and corrective work has been completed and approved by the District.

10.6. ***Violation a Misdemeanor***: Any person who violates any of the provisions of this Ordinance, or fails to satisfy the terms of a permit issued hereunder, is guilty of a misdemeanor, and upon conviction thereof is punishable by a fine not exceeding five hundred dollars ($500), or imprisonment in the county jail not to exceed thirty (30) days, or both that fine and that imprisonment. Any violation or threatened violation may also be enjoined by civil action.

10.7. ***Civil Enforcement***: Violations of this Ordinance may also be redressed by civil action. In addition to being subject to prosecution, any person who violates any of the provisions of this Ordinance may be made the subject of a civil action. Appropriate civil action includes, but is not limited to, injunctive relief and cost recovery.

10.8. ***Remedies Cumulative***: The remedies available to the Board to enforce this Ordinance are in addition to any other remedies available under ordinance or statute, and do not replace or supplant any other remedy but are cumulative thereto.

Section 11: Prior Ordinances

11.1. ***Conflicts and Repeal***: Ordinance 85-1 is hereby repealed. All ordinances of the District in conflict with the terms and conditions of this Ordinance are hereby repealed to the extent of such conflict.

Section 12: Severability

12.1. If any section, subsection, paragraph, subparagraph, sentence, clause, or phrase of this Ordinance is, for any reason, held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this Ordinance; and the Board declares that this Ordinance and each section, subsection, paragraph, subparagraph, sentence, clause, and phrase, thereof, would have been adopted irrespective of the fact that one or more such section, subsection, paragraph, subparagraph, sentence, clause, or phrase be declared invalid or unconstitutional.

Section 13: Effective Date

13.1. This Ordinance shall take effect May 24, 1990. Within ten (10) days after its adoption, it shall be published once in full with the names of the members voting for and against the same in a newspaper or general circulation printed, published and circulated in the District.

PASSED AND ADOPTED by the Board of Directors of Santa Clara Valley Water District on April 24, 1990, by the following vote:

AYES: DIRECTORS J. Donohue, P. T. Ferraro,
R. W. Gross, J. Judge,
J. J. Lenihan, J. Pandit,
S. Sanchez

NOES: DIRECTORS None

ABSENT: DIRECTORS None

SANTA CLARA VALLEY WATER DISTRICT

By: SIG SANCHEZ
Chairman/Board of Directors

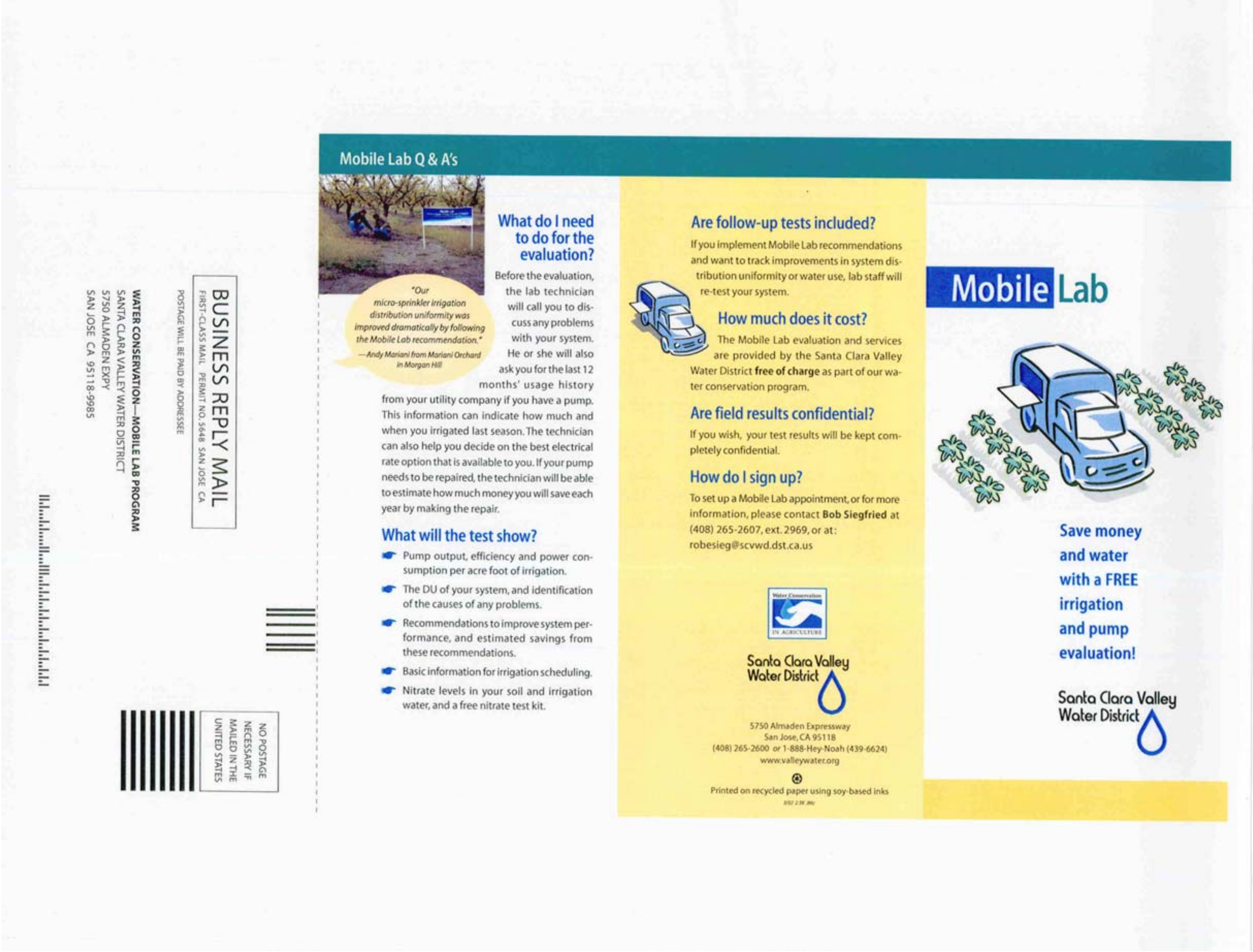
ATTEST: SUSAN A. PINO
Clerk/Board of Directors

Appendix G

Sample Mobile Lab Print Out and Pamphlet

&

Copy of District's Web Page Agricultural Section



Mobile Lab Q & A's

> *"Our micro-sprinkler irrigation distribution uniformity was improved dramatically by following the Mobile Lab recommendation."*
> *—Andy Mariani from Mariani Orchard in Morgan Hill*

What do I need to do for the evaluation?

Before the evaluation, the lab technician will call you to discuss any problems with your system. He or she will also ask you for the last 12 months' usage history from your utility company if you have a pump. This information can indicate how much and when you irrigated last season. The technician can also help you decide on the best electrical rate option that is available to you. If your pump needs to be repaired, the technician will be able to estimate how much money you will save each year by making the repair.

What will the test show?

- Pump output, efficiency and power consumption per acre foot of irrigation.
- The DU of your system, and identification of the causes of any problems.
- Recommendations to improve system performance, and estimated savings from these recommendations.
- Basic information for irrigation scheduling.
- Nitrate levels in your soil and irrigation water, and a free nitrate test kit.

Are follow-up tests included?

If you implement Mobile Lab recommendations and want to track improvements in system distribution uniformity or water use, lab staff will re-test your system.

How much does it cost?

The Mobile Lab evaluation and services are provided by the Santa Clara Valley Water District **free of charge** as part of our water conservation program.

Are field results confidential?

If you wish, your test results will be kept completely confidential.

How do I sign up?

To set up a Mobile Lab appointment, or for more information, please contact **Bob Siegfried** at (408) 265-2607, ext. 2969, or at:
robesieg@scvwd.dst.ca.us

Water Conservation
IN AGRICULTURE

Santa Clara Valley
Water District

5750 Almaden Expressway
San Jose, CA 95118
(408) 265-2600 or 1-888-Hey-Noah (439-6624)
www.valleywater.org

Printed on recycled paper using soy-based inks

Mobile Lab

Save money and water with a FREE irrigation and pump evaluation!

Santa Clara Valley
Water District

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 5648 SAN JOSE CA

POSTAGE WILL BE PAID BY ADDRESSEE

WATER CONSERVATION—MOBILE LAB PROGRAM
SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPY
SAN JOSE CA 95118-9985

NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES

Mobile Lab—improving agricultural irrigation

Local farmers, flower growers and irrigators: You can save money and dramatically improve irrigation practices with a new resource: the Santa Clara Valley Water District's **Irrigation Management Mobile Laboratory.** Our "Mobile Lab" travels site to site to assess agricultural irrigation systems and recommend improvements—**free of charge.** We'll gather information from your system while you are irrigating, analyze it and review the results with you. We'll also recommend irrigation efficiency and nitrogen management improvements, and ideas to save you money on pumping costs. You can then focus on custom solutions that will have the most impact at your particular site.

Call now to set up an appointment: (408) 265-2607, extension 2969.

Mobile Lab Q & A's

What does Mobile Lab do?

Trained Mobile Lab irrigation specialists come to your work site and measure the distribution uniformity (DU) of your irrigation system—crucial to getting the most benefit from your irrigation dollar. Tests are usually conducted during a regularly scheduled irrigation. We will test the efficiency of your pump and filter. Then we will check your emitters or sprinklers, and measure pressures and flow rates throughout the field to determine how uniformly water is being applied to your crop. The lab can also determine the nitrate concentration in your irrigation water and soil.

Why should I use Mobile Lab?

The lab can save you money by locating irrigation and pump problems before they get out of hand. We can show you management practices that will get you the maximum benefit for your irrigation dollar—without charge. And the lab can evaluate a new system to see if you are getting what you paid for.

Who is eligible for Mobile Lab services?

Anyone who owns or manages commercial agricultural cropland or a commercial nursery in Santa Clara County.

How long does an evaluation take?

Timing can vary depending on the size of the property and the complexity of the irrigation system. For drip, micro and sprinkler systems evaluation can take between four and eight hours to complete. Furrow and border strip tests take somewhat longer. You will get the most out of the evaluation if you can follow us through the entire process. At the end of the test, the lab technician will give you preliminary information. Final results are usually complete in seven to 10 days. The lab technician will call you and schedule an appointment to go over the results. Results will be mailed to you for your review before the meeting.

> *"I cut my annual power costs in half by following the recommendations I got from the Mobile Lab after they tested my pump."*
>
> *—Tom Bender of the Gilroy Apple Farm*

District technicians perform tests on pump.

Sign up for a FREE irrigation and pump evaluation!

NAME

FARM NAME

FARM ACREAGE IRRIGATION SYSTEM TYPE

STREET ADDRESS

CITY

STATE ZIP

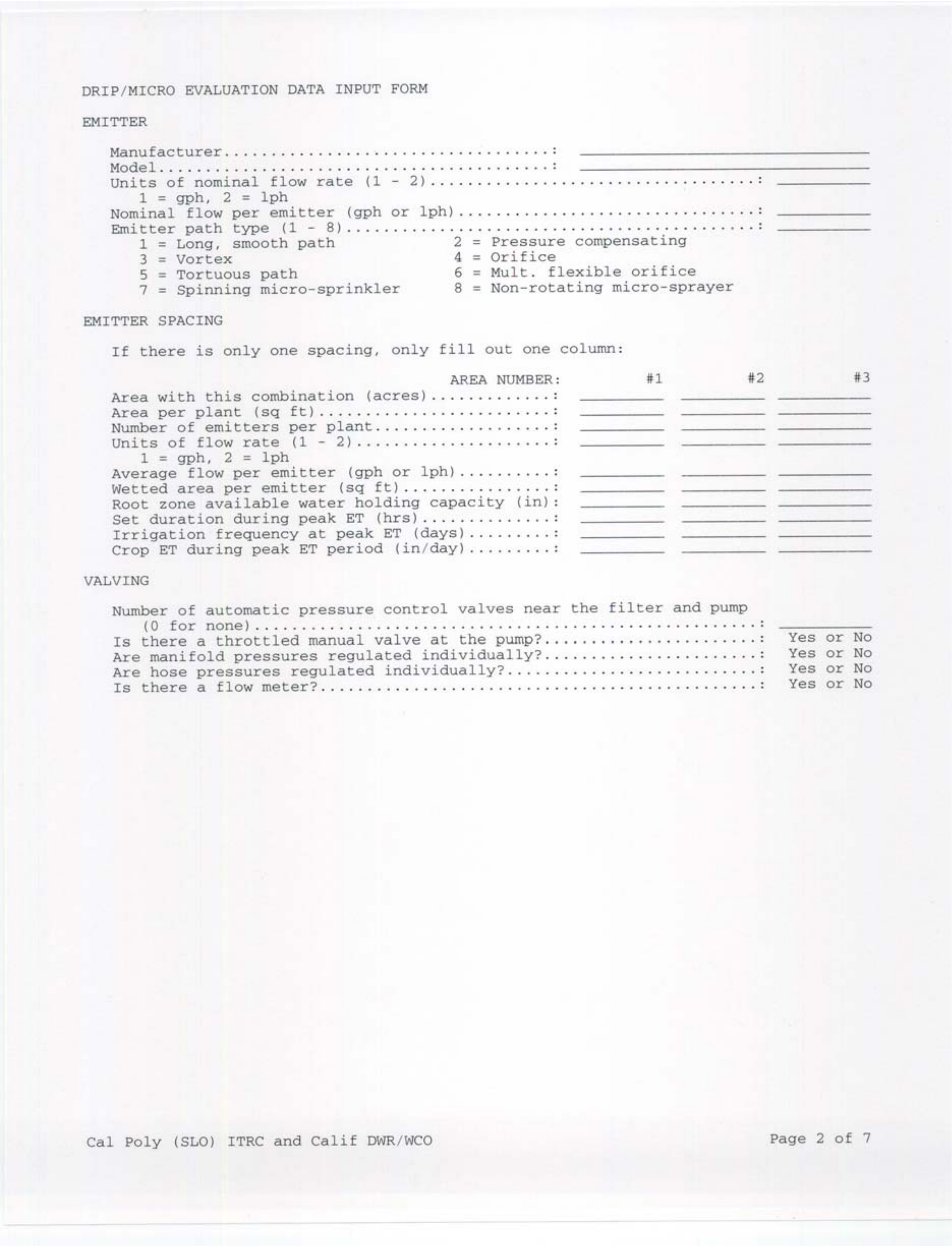
( )
PHONE

( )
FAX

E-MAIL ADDRESS

Water Conservation IN AGRICULTURE

Santa Clara Valley Water District



DRIP/MICRO EVALUATION DATA INPUT FORM

EMITTER

Manufacturer...................................: ____________________
Model..: ____________________
Units of nominal flow rate (1 - 2)...................................: ________
1 = gph, 2 = lph
Nominal flow per emitter (gph or lph)................................: ________
Emitter path type (1 - 8)..: ________

1 = Long, smooth path
2 = Pressure compensating
3 = Vortex
4 = Orifice
5 = Tortuous path
6 = Mult. flexible orifice
7 = Spinning micro-sprinkler
8 = Non-rotating micro-sprayer

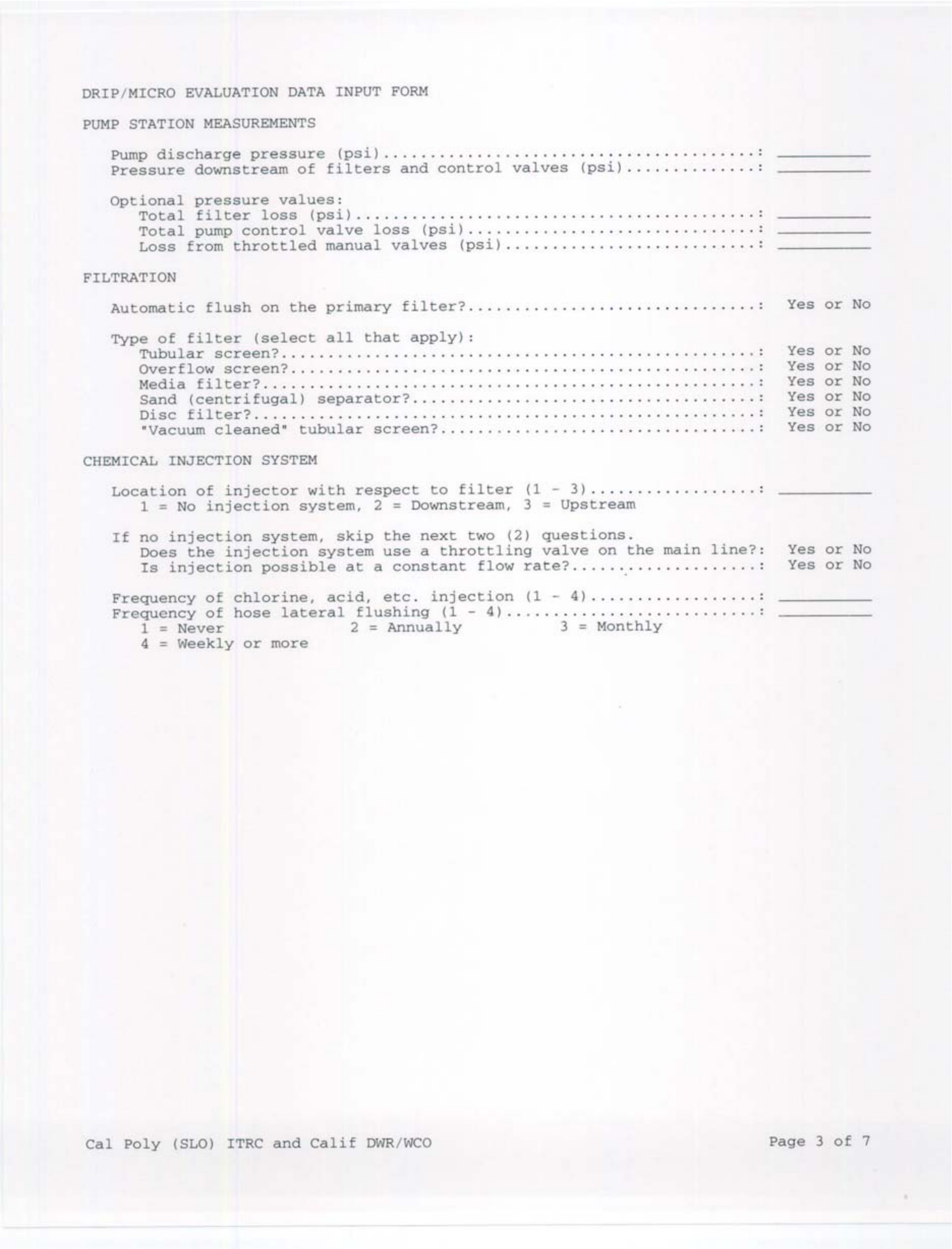
EMITTER SPACING

If there is only one spacing, only fill out one column:

AREA NUMBER:	#1	#2	#3
Area with this combination (acres).............:	______	______	______
Area per plant (sq ft).........................:	______	______	______
Number of emitters per plant...................:	______	______	______
Units of flow rate (1 - 2).....................: 1 = gph, 2 = lph	______	______	______
Average flow per emitter (gph or lph)..........:	______	______	______
Wetted area per emitter (sq ft)................:	______	______	______
Root zone available water holding capacity (in):	______	______	______
Set duration during peak ET (hrs)..............:	______	______	______
Irrigation frequency at peak ET (days).........:	______	______	______
Crop ET during peak ET period (in/day).........:	______	______	______

VALVING

Number of automatic pressure control valves near the filter and pump
(0 for none)...: ________
Is there a throttled manual valve at the pump?.......................: Yes or No
Are manifold pressures regulated individually?.......................: Yes or No
Are hose pressures regulated individually?...........................: Yes or No
Is there a flow meter?...: Yes or No



DRIP/MICRO EVALUATION DATA INPUT FORM

PUMP STATION MEASUREMENTS

Pump discharge pressure (psi)..: ________
Pressure downstream of filters and control valves (psi)..............: ________

Optional pressure values:
Total filter loss (psi)..: ________
Total pump control valve loss (psi)..............................: ________
Loss from throttled manual valves (psi)..........................: ________

FILTRATION

Automatic flush on the primary filter?...............................: Yes or No

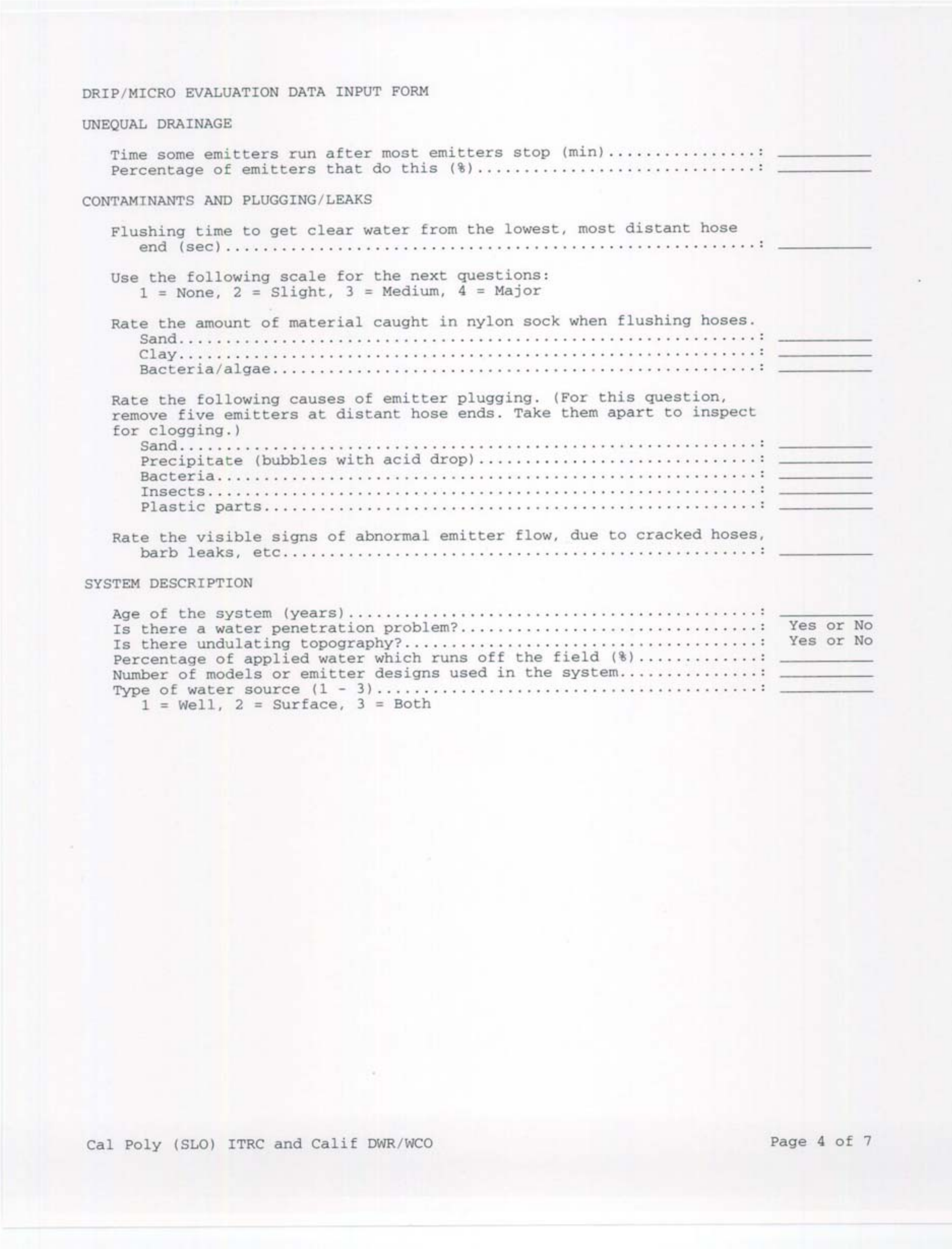
Type of filter (select all that apply):
Tubular screen?..: Yes or No
Overflow screen?...: Yes or No
Media filter?..: Yes or No
Sand (centrifugal) separator?....................................: Yes or No
Disc filter?...: Yes or No
"Vacuum cleaned" tubular screen?.................................: Yes or No

CHEMICAL INJECTION SYSTEM

Location of injector with respect to filter (1 - 3)...................: ________
1 = No injection system, 2 = Downstream, 3 = Upstream

If no injection system, skip the next two (2) questions.
Does the injection system use a throttling valve on the main line?: Yes or No
Is injection possible at a constant flow rate?...................: Yes or No

Frequency of chlorine, acid, etc. injection (1 - 4)..................: ________
Frequency of hose lateral flushing (1 - 4)...........................: ________
1 = Never 2 = Annually 3 = Monthly
4 = Weekly or more



DRIP/MICRO EVALUATION DATA INPUT FORM

UNEQUAL DRAINAGE

Time some emitters run after most emitters stop (min)................: ________
Percentage of emitters that do this (%)..............................: ________

CONTAMINANTS AND PLUGGING/LEAKS

Flushing time to get clear water from the lowest, most distant hose end (sec)...: ________

Use the following scale for the next questions:
1 = None, 2 = Slight, 3 = Medium, 4 = Major

Rate the amount of material caught in nylon sock when flushing hoses.
Sand...: ________
Clay...: ________
Bacteria/algae...: ________

Rate the following causes of emitter plugging. (For this question, remove five emitters at distant hose ends. Take them apart to inspect for clogging.)
Sand...: ________
Precipitate (bubbles with acid drop).................................: ________
Bacteria...: ________
Insects..: ________
Plastic parts..: ________

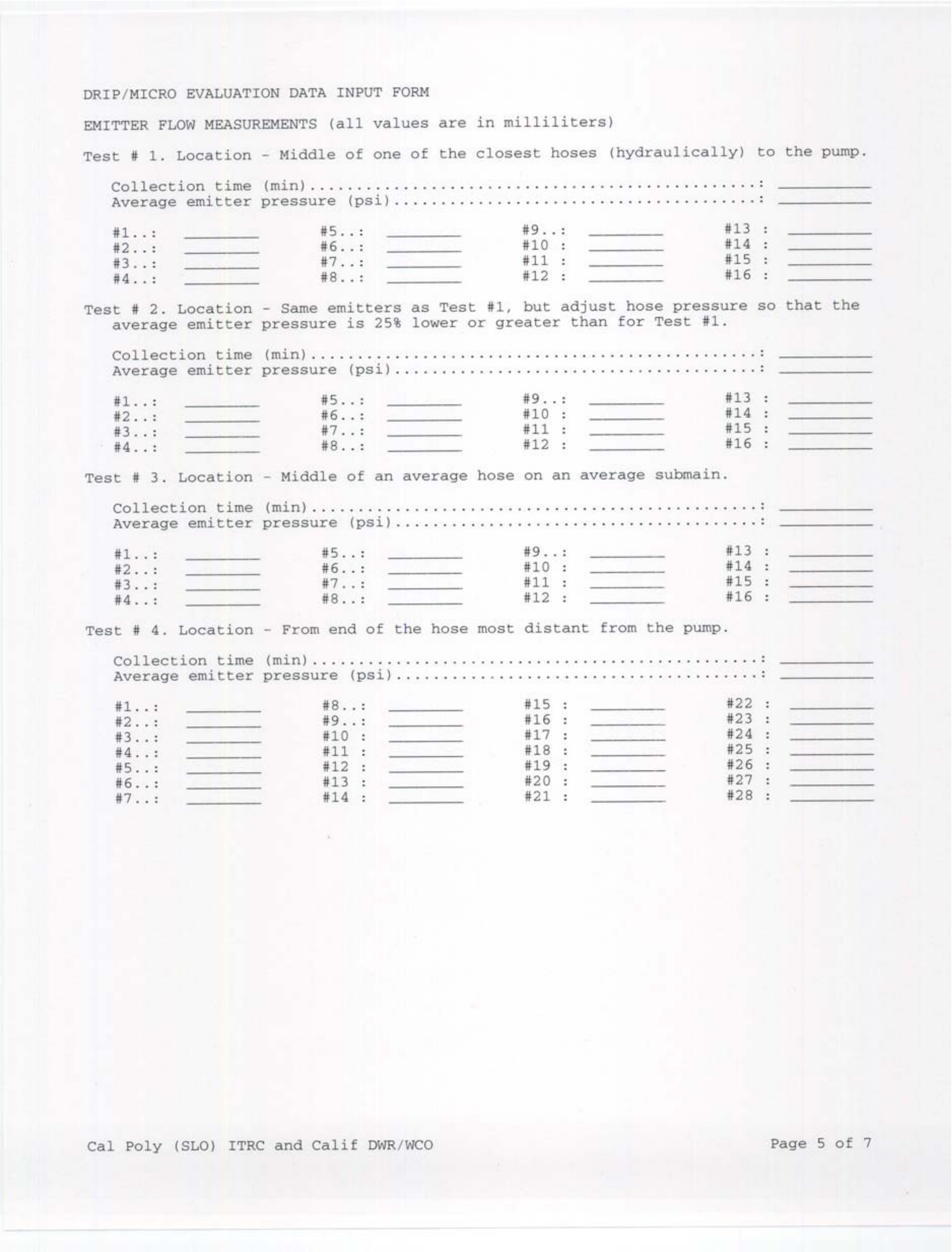
Rate the visible signs of abnormal emitter flow, due to cracked hoses, barb leaks, etc..: ________

SYSTEM DESCRIPTION

Age of the system (years)..: ________
Is there a water penetration problem?................................: Yes or No
Is there undulating topography?......................................: Yes or No
Percentage of applied water which runs off the field (%).............: ________
Number of models or emitter designs used in the system...............: ________
Type of water source (1 - 3)...: ________
1 = Well, 2 = Surface, 3 = Both

Cal Poly (SLO) ITRC and Calif DWR/WCO

Page 4 of 7



DRIP/MICRO EVALUATION DATA INPUT FORM

EMITTER FLOW MEASUREMENTS (all values are in milliliters)

Test # 1. Location - Middle of one of the closest hoses (hydraulically) to the pump.

Collection time (min)..: __________
Average emitter pressure (psi)...................................: __________

#1..: ________
#2..: ________
#3..: ________
#4..: ________
#5..: ________
#6..: ________
#7..: ________
#8..: ________
#9..: ________
#10 : ________
#11 : ________
#12 : ________
#13 : ________
#14 : ________
#15 : ________
#16 : ________

Test # 2. Location - Same emitters as Test #1, but adjust hose pressure so that the average emitter pressure is 25% lower or greater than for Test #1.

Collection time (min)..: __________
Average emitter pressure (psi)...................................: __________

#1..: ________
#2..: ________
#3..: ________
#4..: ________
#5..: ________
#6..: ________
#7..: ________
#8..: ________
#9..: ________
#10 : ________
#11 : ________
#12 : ________
#13 : ________
#14 : ________
#15 : ________
#16 : ________

Test # 3. Location - Middle of an average hose on an average submain.

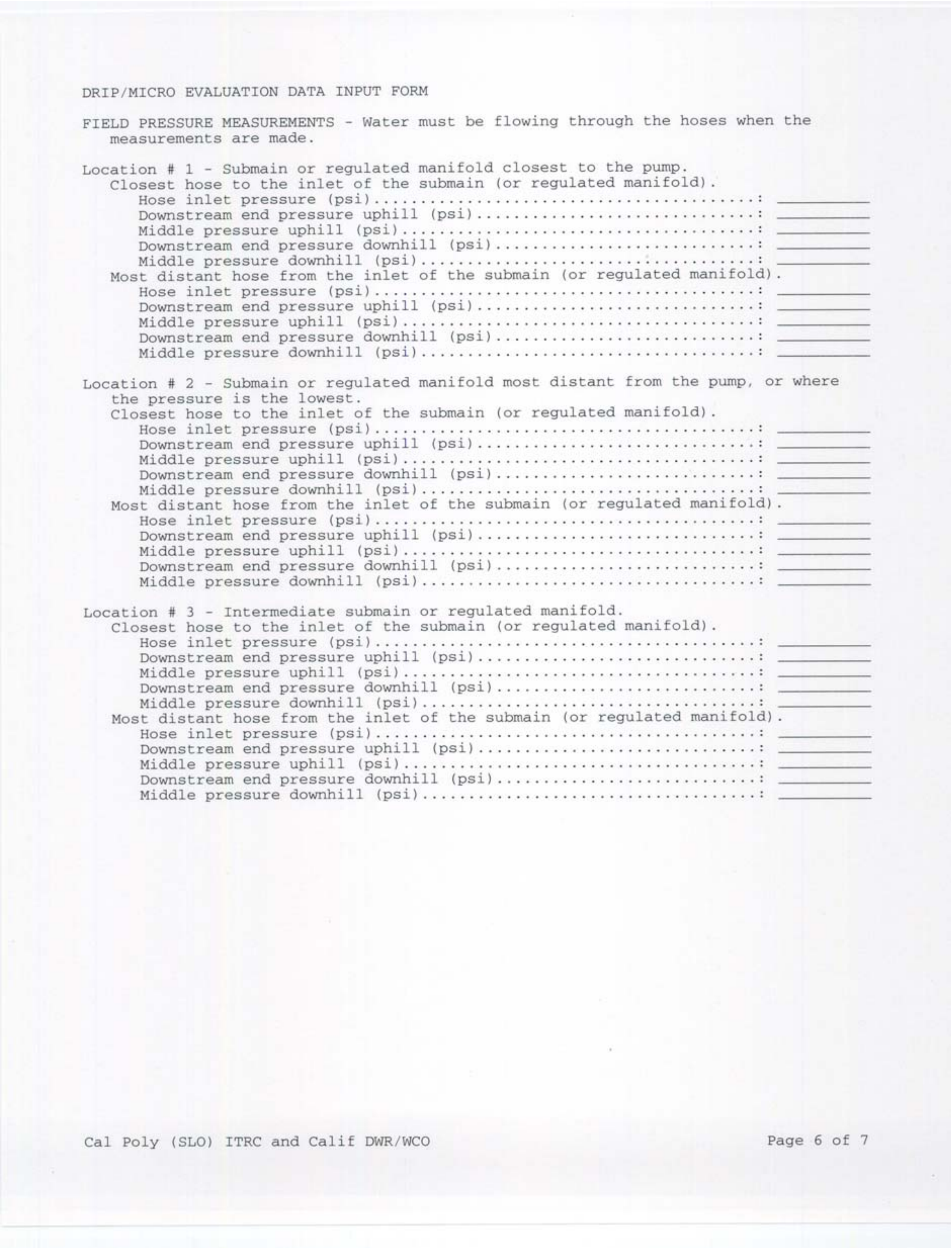
Collection time (min)..: __________
Average emitter pressure (psi)...................................: __________

#1..: ________
#2..: ________
#3..: ________
#4..: ________
#5..: ________
#6..: ________
#7..: ________
#8..: ________
#9..: ________
#10 : ________
#11 : ________
#12 : ________
#13 : ________
#14 : ________
#15 : ________
#16 : ________

Test # 4. Location - From end of the hose most distant from the pump.

Collection time (min)..: __________
Average emitter pressure (psi)...................................: __________

#1..: ________
#2..: ________
#3..: ________
#4..: ________
#5..: ________
#6..: ________
#7..: ________
#8..: ________
#9..: ________
#10 : ________
#11 : ________
#12 : ________
#13 : ________
#14 : ________
#15 : ________
#16 : ________
#17 : ________
#18 : ________
#19 : ________
#20 : ________
#21 : ________
#22 : ________
#23 : ________
#24 : ________
#25 : ________
#26 : ________
#27 : ________
#28 : ________



DRIP/MICRO EVALUATION DATA INPUT FORM

FIELD PRESSURE MEASUREMENTS - Water must be flowing through the hoses when the measurements are made.

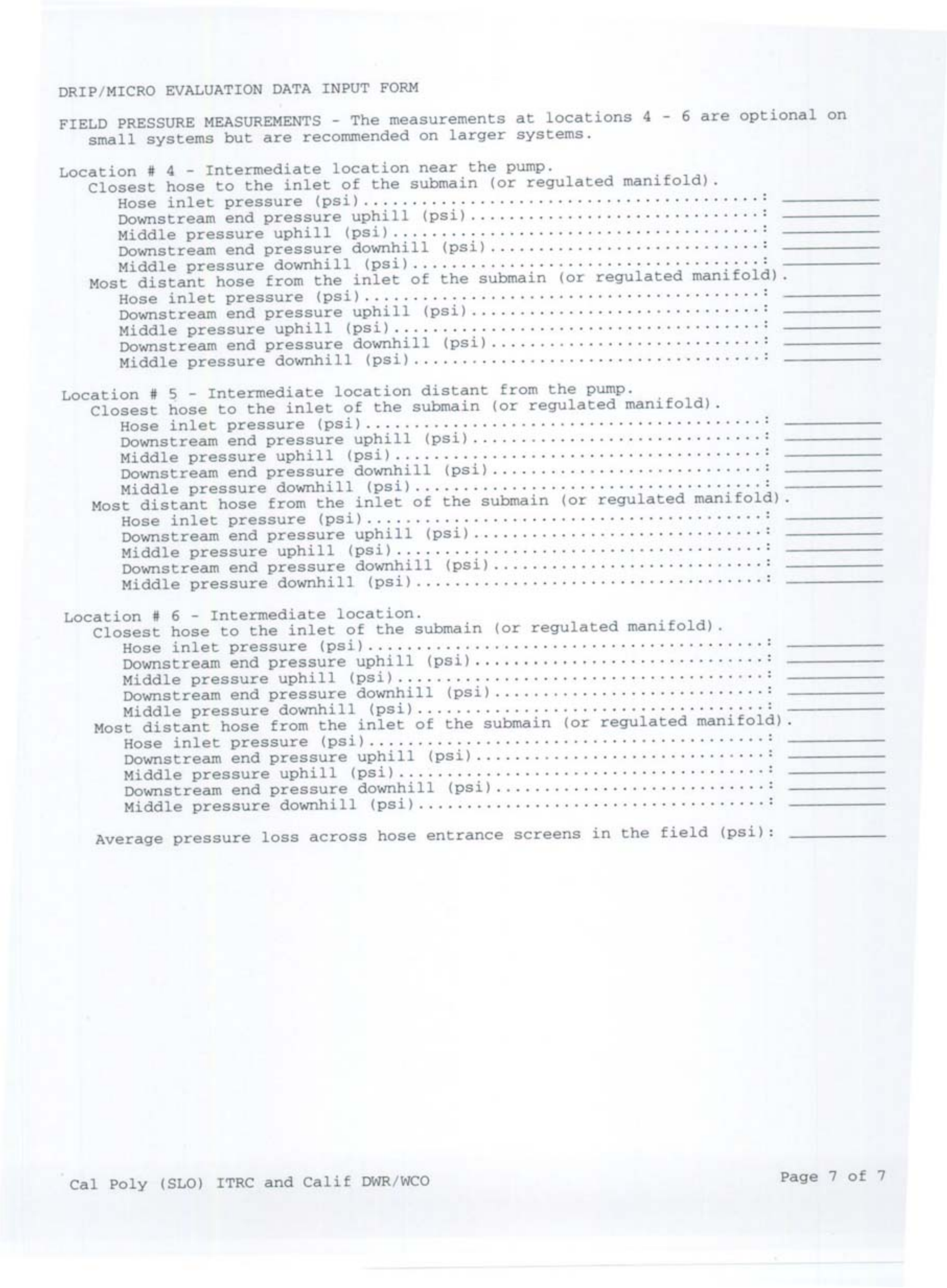
Location # 1 - Submain or regulated manifold closest to the pump.
Closest hose to the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________
Most distant hose from the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________

Location # 2 - Submain or regulated manifold most distant from the pump, or where the pressure is the lowest.
Closest hose to the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________
Most distant hose from the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________

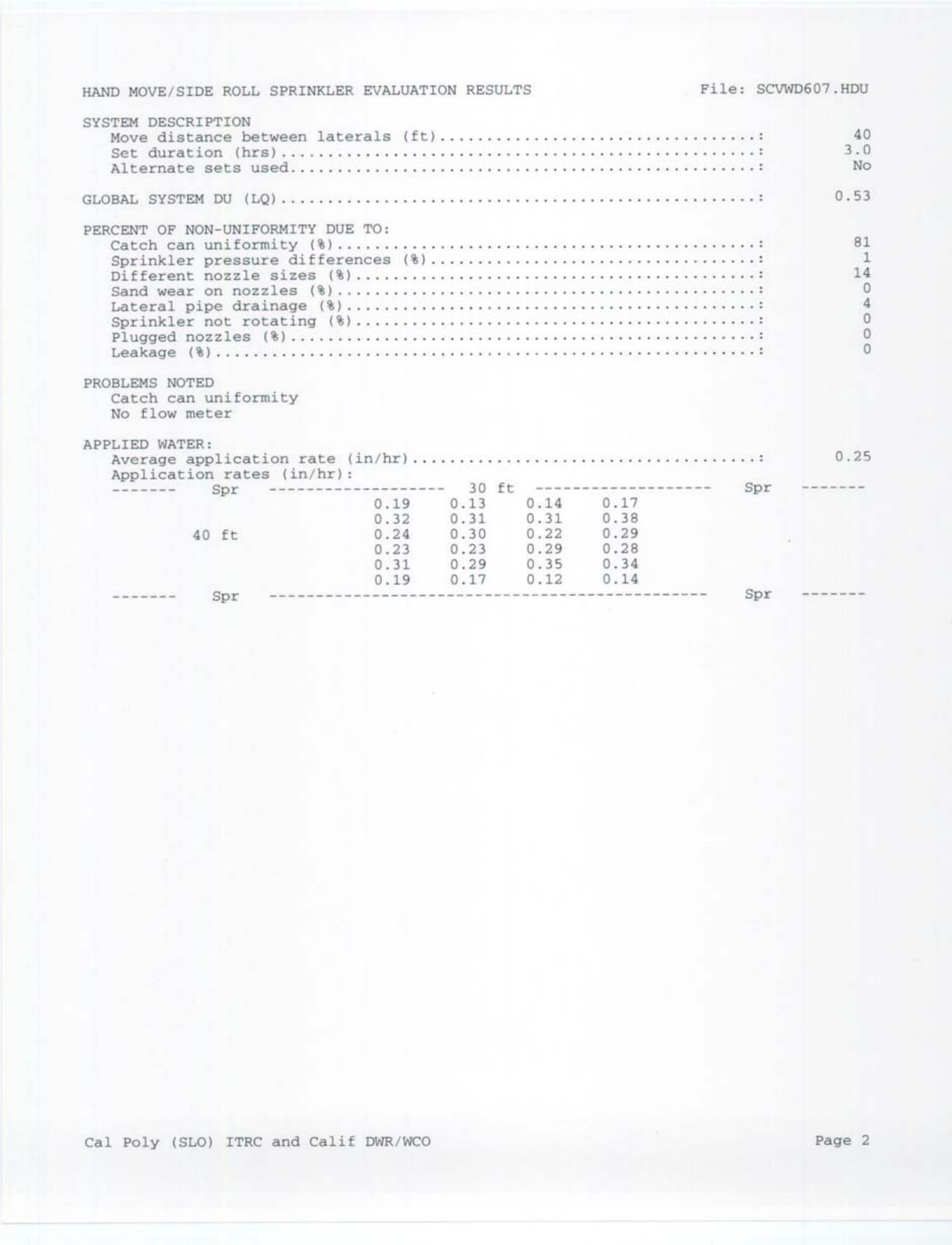
Location # 3 - Intermediate submain or regulated manifold.
Closest hose to the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________
Most distant hose from the inlet of the submain (or regulated manifold).
Hose inlet pressure (psi)..: __________
Downstream end pressure uphill (psi).............................: __________
Middle pressure uphill (psi).....................................: __________
Downstream end pressure downhill (psi)...........................: __________
Middle pressure downhill (psi)...................................: __________

Cal Poly (SLO) ITRC and Calif DWR/WCO

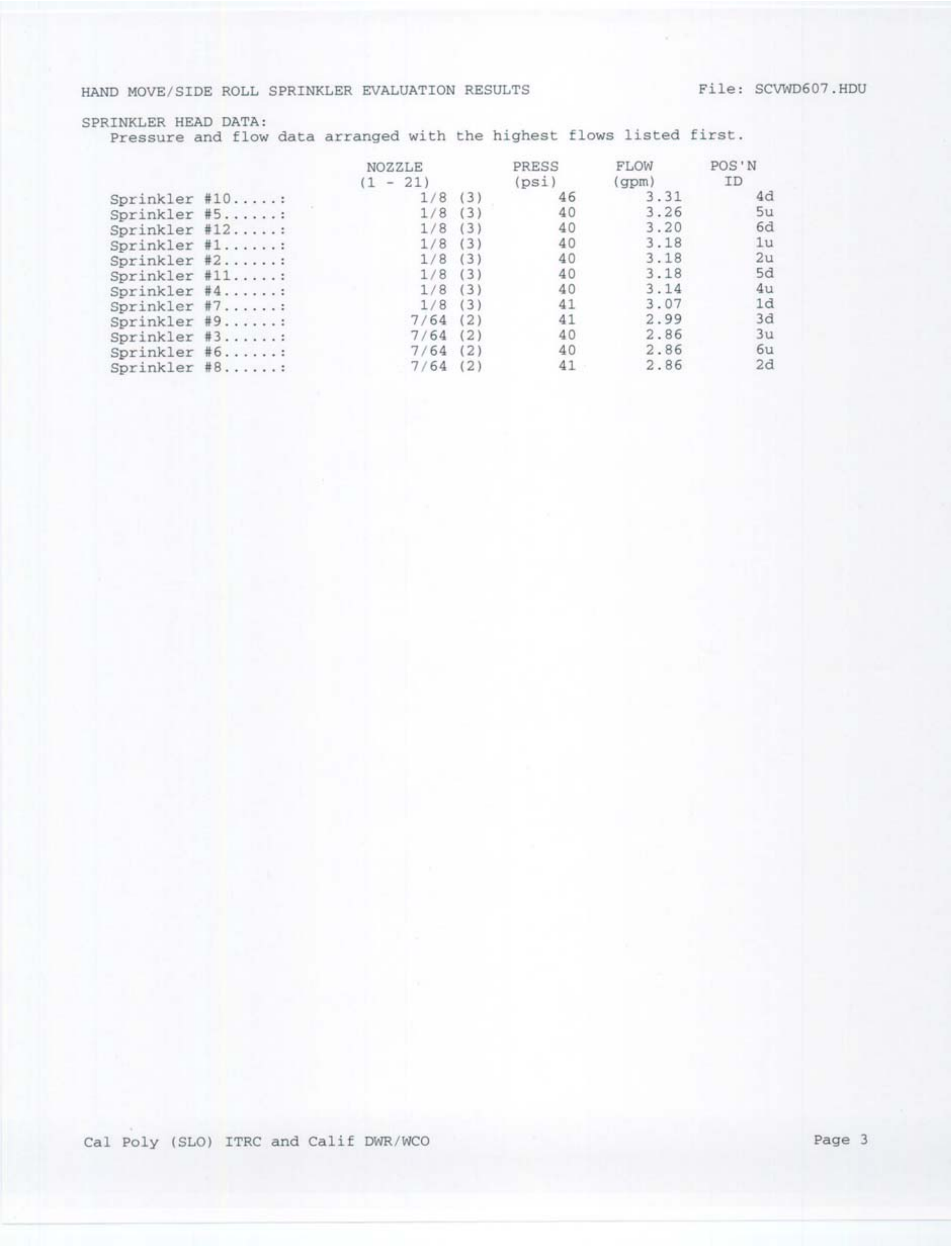
Page 6 of 7



```
DRIP/MICRO EVALUATION DATA INPUT FORM

FIELD PRESSURE MEASUREMENTS - The measurements at locations 4 - 6 are optional on
   small systems but are recommended on larger systems.

Location # 4 - Intermediate location near the pump.
   Closest hose to the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________
   Most distant hose from the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________

Location # 5 - Intermediate location distant from the pump.
   Closest hose to the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________
   Most distant hose from the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________

Location # 6 - Intermediate location.
   Closest hose to the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________
   Most distant hose from the inlet of the submain (or regulated manifold).
      Hose inlet pressure (psi).......................................: __________
      Downstream end pressure uphill (psi)............................: __________
      Middle pressure uphill (psi)....................................: __________
      Downstream end pressure downhill (psi)..........................: __________
      Middle pressure downhill (psi)..................................: __________

   Average pressure loss across hose entrance screens in the field (psi): __________
```



```
HAND MOVE/SIDE ROLL SPRINKLER EVALUATION RESULTS                 File: SCVWD607.HDU

SYSTEM DESCRIPTION
   Move distance between laterals (ft)..................................:          40
   Set duration (hrs)...................................................:         3.0
   Alternate sets used..................................................:          No

GLOBAL SYSTEM DU (LQ)...................................................:        0.53

PERCENT OF NON-UNIFORMITY DUE TO:
   Catch can uniformity (%).............................................:          81
   Sprinkler pressure differences (%)...................................:           1
   Different nozzle sizes (%)...........................................:          14
   Sand wear on nozzles (%).............................................:           0
   Lateral pipe drainage (%)............................................:           4
   Sprinkler not rotating (%)...........................................:           0
   Plugged nozzles (%)..................................................:           0
   Leakage (%)..........................................................:           0

PROBLEMS NOTED
   Catch can uniformity
   No flow meter

APPLIED WATER:
   Average application rate (in/hr).....................................:        0.25
   Application rates (in/hr):
   -------    Spr    -------------------  30 ft  -------------------    Spr    -------
                                0.19     0.13     0.14     0.17
                                0.32     0.31     0.31     0.38
            40 ft               0.24     0.30     0.22     0.29
                                0.23     0.23     0.29     0.28
                                0.31     0.29     0.35     0.34
                                0.19     0.17     0.12     0.14
   -------    Spr    -----------------------------------------------    Spr    -------




Cal Poly (SLO) ITRC and Calif DWR/WCO                                             Page 2
```



```
HAND MOVE/SIDE ROLL SPRINKLER EVALUATION RESULTS                File: SCVWD607.HDU

SPRINKLER HEAD DATA:
   Pressure and flow data arranged with the highest flows listed first.

                              NOZZLE          PRESS      FLOW       POS'N
                             (1 - 21)         (psi)      (gpm)       ID
   Sprinkler #10.....:          1/8 (3)          46        3.31        4d
   Sprinkler #5......:          1/8 (3)          40        3.26        5u
   Sprinkler #12.....:          1/8 (3)          40        3.20        6d
   Sprinkler #1......:          1/8 (3)          40        3.18        1u
   Sprinkler #2......:          1/8 (3)          40        3.18        2u
   Sprinkler #11.....:          1/8 (3)          40        3.18        5d
   Sprinkler #4......:          1/8 (3)          40        3.14        4u
   Sprinkler #7......:          1/8 (3)          41        3.07        1d
   Sprinkler #9......:         7/64 (2)          41        2.99        3d
   Sprinkler #3......:         7/64 (2)          40        2.86        3u
   Sprinkler #6......:         7/64 (2)          40        2.86        6u
   Sprinkler #8......:         7/64 (2)          41        2.86        2d




Cal Poly (SLO) ITRC and Calif DWR/WCO                                    Page 3
```

Santa Clara Valley Water District
Website Addresses for Agricultural Information

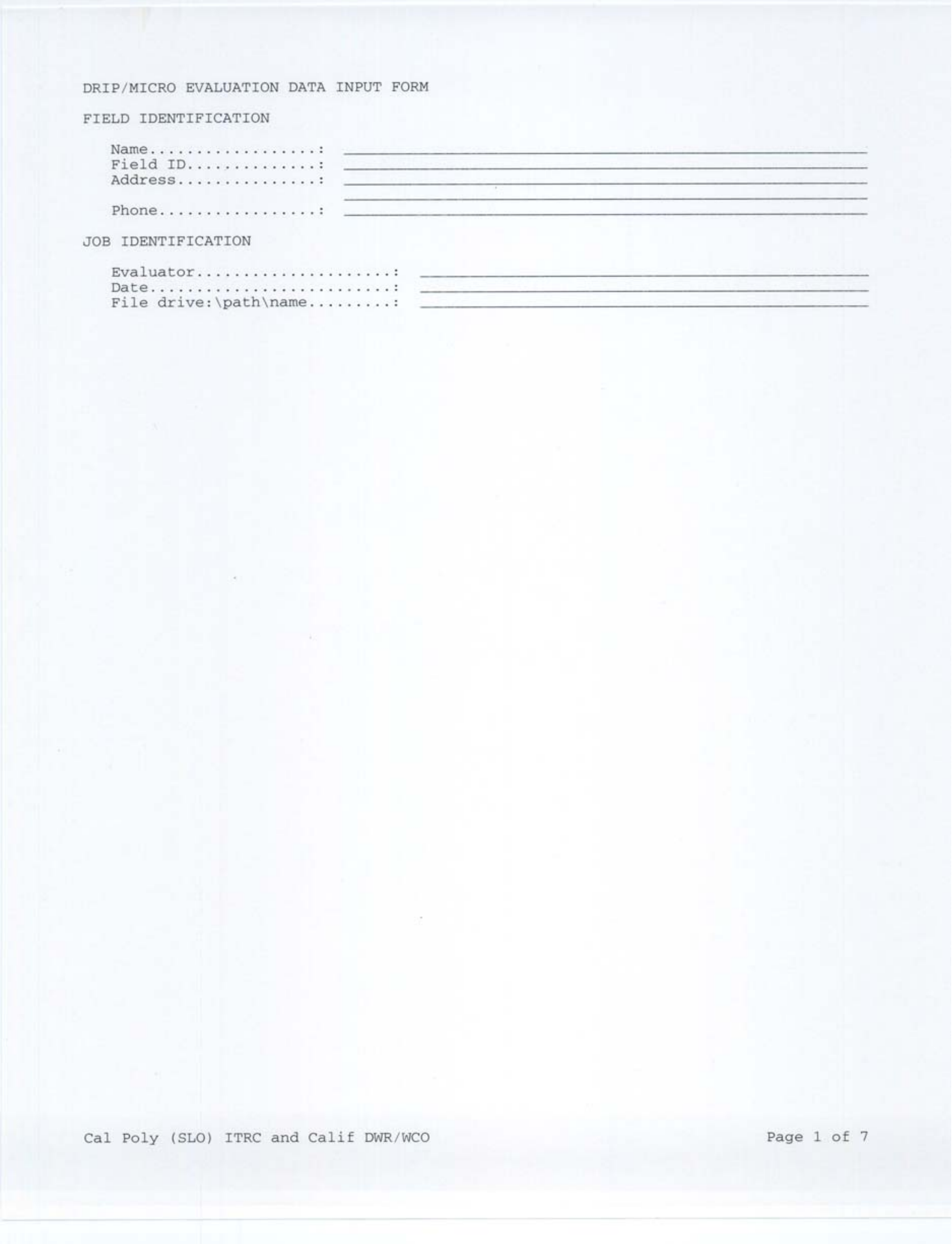
Water Use Efficiency in Agriculture
http://www.valleywater.org/Water/Water_in_agriculture/index.shtm

Agricultural Water Advisory Committee
http://www.valleywater.org/About_Us/Board_of_directors/Board_advisory_committees/Agricultural_Water.shtm

Mobile lab helps farmer improve water efficiency
http://www.valleywater.org/Water/Water_conservation/In_agriculture/Mobile_lab.shtm

Landscaping Programs
http://www.valleywater.org/Water/Water_conservation/Landscaping/index.shtm

Water Rates and Retailers
http://www.valleywater.org/Water/Water_conservation/Landscaping/index.shtm



DRIP/MICRO EVALUATION DATA INPUT FORM

FIELD IDENTIFICATION

Name..................: ______________________________
Field ID..............: ______________________________
Address...............: ______________________________
____
Phone.................: ______________________________

JOB IDENTIFICATION

Evaluator.....................: ______________________________
Date..........................: ______________________________
File drive:\path\name.........: ______________________________

Cal Poly (SLO) ITRC and Calif DWR/WCO

Page 1 of 7

Appendix H

Water Audit Information

All District Water Retailers

Appendix H

WATER AUDIT INFORMATION - SANTA CLARA COUNTY RETAILERS

Retailer	Contact	Year	Annual Water Supply to Distribution system	Annual Metered Sales	Other Uses	% Water Losses
California Water Service Company	Melinda Ray mray@calwater.com (650) 917-0152	2003	14,745 AF	57,820 AF		5.50% 3.79% = 10 yr avg
City of Gilroy	Dan Aldridge daldridge@ci.gilroy.ca.us (408) 846-0271	2003	2,758.67 MG	2,376.81 MG		7.6%
City of Milpitas	Marilyn Nickel (408) 586-3347	2000-2001 2001-2002 2002-2003 2003-2004	11.59 MGD 10.86 MGD 10.70 MGD 11.04 MGD	11.23 MGD 10.30 MGD 10.38 MGD 10.07 MGD		3.1% 5.2% 3.0% 8.8% 6.4% = 10 yr avg
City of Morgan Hill	Mario Iglesias (408) 776-7333					
City of Mountain View	Tom Ford (650) 903-6269	2003	13,650 AF	12,822 AF	22 AF	6%
City of Palo Alto	Water not supplied by Santa Clara Valley Water District					
City of Santa Clara	Chris de Groot cdegroot@ci.santa-clara.ca.us	2001 2002 2003 2004	8,363.9 MG 7,985.7 MG 7,718.1 MG 7,949.3 MG	8,242.7 MG 7,827.0 MG 7,513.2 MG 7,714.98 MG		1.4% 2.0% 2.7% 2.9%
City of Sunnyvale	Val Conzet (408) 730-7560					
Great Oaks Water Company	Bob Dartez	2001 2002 2003 2004	5,764,926 CCF 5,743,420 CCF 5,572,029 CCF 5,716,862 CCF	5,522,841 CCF 5,477,538 CCF 5,390,992 CCF 5,478,611 CCF		4.20% 4.63% 3.25% 4.17%
Purrissima Hills	Water not supplied by Santa Clara Valley Water District					
San Jose Municipal Water System	Mansour Nasser (408) 277-4218 Mansour.Nasser@sanjoseca.gov	2003-2004	22,777 AF	21,943 AF		3.7%
San Jose Water Company	Melania Corbin	2003-2004	49,398,770 MG			146 leaks 230 service leaks
Stanford University	Water not supplied by Santa Clara Valley Water District					

Appendix I

Retail Water Company Rates

Appendix I

Cal Water

Categories	Tiers	Rates*
All Delivered Water**	N/A	$1.924

Monthly Service Charge	
	All
5/8"	10.00
3/4"	15.00
1"	20.00
1.5"	32.00
2"	50.00
3"	87.00
4"	120.00
6"	195.00
8"	312.00
10"	400.00
12"	573.90
14"	782.60

*Tiers in gallons

**Agricultural users receive a $.501 credit per HCF used.

Gilroy

Categories	Tiers*	Zone 1**	Zone 2	Zone 3
Residential	0-5,000	$0.71	$1.30	$1.92
	5,001-15,000	$1.39	$1.98	$2.60
	15001-30,000	$3.74	$4.33	$4.95
	30,001+	$5.45	$6.04	$6.66
Seniors	0-5,000	Free	$1.30	$1.92
	5,001-15,000	$1.39	$1.98	$2.60
	15001-30,000	$3.74	$4.33	$4.95
	30,001+	$5.45	$6.04	$6.66
Commercial	0-3,000	$0.71	$1.30	$1.92
	3,001-30,000	$1.68	$2.27	$2.89
	30,000+	$1.87	$2.46	$3.08
Irrigation Only	0-30,000	$3.74	$4.33	$4.95
	30,000+	$5.45	$6.04	$6.66

Monthly Service Charge		
	Residential	Commercial
5/8"		
3/4"	$4.38	$4.38
1"	$5.46	$5.46
1.5"	$13.65	$13.65
2"	$21.82	$21.82
3"		
4"		
6"		
8"		
10"		

*Tiers in gallons

**All Rates per 1000 gallons

Appendix I

Great Oaks

Categories	Tiers	Rates*
All Delivered Water	N/A	$1.719

*Rates per HCF

Monthly Service Charge	
	All
5/8"	$5.79
3/4"	$8.70
1"	$14.50
1.5"	$29.00
2"	$46.30
3"	$87.00
4"	$145.00
6"	$290.00
8"	$464.00
10"	$666.00

Milpitas

Categories	Tiers	Rates*
Residential	1-20.	$1.29
	21+	$2.71
Commercial	N/A	$2.95
Recycled Industrial Process	N/A	$1.48
Recycled Sanitary	N/A	$1.48
Potable Irrigation	N/A	$3.37
Recycled (Formerly Wells)**	N/A	$0.63
Recycled (Agricultural)**	N/A	$0.27
City Accounts	N/A	$0.55
Recycled (All Other)	N/A	$2.70
Santa Clara County (Ed Levin Park)	N/A	$1.16
City of Milpitas accounts (Potable)	N/A	$1.15

Bi-Monthly Service Charge		
	Residential	Commercial
5/8"	$16.34	$17.24
3/4"	$17.37	$18.33
1"	$24.67	$26.08
1.5"	$31.11	$32.88
2"	$40.60	$42.87
3"	$108.70	$114.79
4"	$137.74	$145.43
6"	$210.19	$221.99
8"	$275.40	$290.85
10"	$398.64	$421.01

*Rates per HCF
**Flat Bi-Monthly Service Charge of $60

Mountain View

Categories	Tiers	Rates*
Residential Single Unit	1-3.	$1.22
	3.1-25	$2.49
	25+	$4.97
Multiple Unit (2-4), on 5-8" or 3/4"	1-6.	$1.22
	6.1-40	$2.49
	40+	$4.97
Commercial on 1" or 1.5"	1-20.	$2.49
	21-200	$2.69
	200+	$4.97
Commercial on 2" to 4"	1-500.	$2.49
	501-2000	$2.69
	2000+	$4.97
Commercial 6" or larger	1-4000.	$2.49
	4001-10000	$2.69
	10000+	$4.97

Monthly Service Charge		
	Residential	**Commercial**
5/8"	$4.10	
3/4"	$4.10	
1"	$8.20	$8.20
1.5"	$13.30	$13.30
2"	$24.80	$24.80
3"	$43.05	$43.05
4"	$67.70	$67.70
6"	$135.55	$135.55
8"	$215.85	$215.85
10"	$315.00	$315.00

***Rates per HCF**

Morgan Hill

Categories	Tiers	Rates*
City Residents**	1-10	$0.99
	11-30	$1.98
	31+	$2.97
Country Residents***	1-10	$1.53
	11-30	$3.07
	31+	$4.60
Commercial	N/A	$1.61

Monthly Service Charge	
	All
5/8"	$5.20
3/4"	$5.20
1"	$5.20
1.5"	$8.65
2"	$13.90
3"	$27.75
4"	$44.94
6"	$69.03
8"	$103.73
10"	$135.33

***Rates per HCF**

****City Residential Monthly Base Rate $5.10**

*****Country Residential Monthly Base Rate $7.91**

NOTE: Low Income Deduction is $2.95 off Monthly Base Rate

Palo Alto

Categories	Tiers	Rates*
Residential**	0-7	$3.707
	7+	$4.025
Commercial	N/A	$4.025
Irrigation	N/A	$3.623

*Rates per HCF

**Temporary unmetered service to residential subdivision developers, per connection……..$6.00

Purissima Hills

Categories	Tiers	Rates*
City Residents	1-10	$1.95
	11-30	$2.48
	31-60	$2.95
	60-100	$3.55
	101-200	$4.50
	200+	$5.00
Commercial	N/A	$2.97

***Rates per HCF**

Monthly Service Charge	
	All
5/8"	$3.50
3/4"	$3.50
1"	$22.00
1.5"	$30.50
2"	$44.00
3"	
4"	
6"	
8"	
10"	

San Jose Municipal

Categories	Tiers	Zone 1*	Zone 2	Zone 3,4	Zone 5,6	Edenvale	Coyote	Alviso	North S.J.
Residential Monthly	0-14	$1.45	$1.53	$1.60	$1.68	$1.45	$1.45	$1.45	$1.45
	15-28	$1.67	$1.75	$1.82	$1.90	$1.67	$1.67	$1.67	$1.67
	29-42	$1.87	$1.95	$2.02	$2.10	$1.87	$1.87	$1.87	$1.87
	42+	$2.07	$2.15	$2.22	$2.30	$2.07	$2.07	$2.07	$2.07
Residential Bi-Monthly**	0-14	$1.45	$1.53	$1.60	$1.68	$1.45	$1.45	$1.45	$1.45
	15-28	$1.67	$1.75	$1.82	$1.90	$1.67	$1.67	$1.67	$1.67
	29-42	$1.87	$1.95	$2.02	$2.10	$1.87	$1.87	$1.87	$1.87
	42+	$2.07	$2.15	$2.22	$2.30	$2.07	$2.07	$2.07	$2.07
Commercial Monthly	N/A	$1.67	$1.67	$1.67	$1.67	$1.67	$1.67	$1.67	$1.67
Commercial Bi-Monthly	N/A	$1.67	$1.75	$1.82	$1.90	$1.67	$1.67	$1.67	$1.67

***All Rates per HCF**

****Residential Bi-Monthly rates are multiplied by the number of dwellings to determine total cost.**

Bi-Monthly Meter Service Charge

	Residential	Commercial
5/8"	$11.70	$11.70
3/4"	$12.00	$12.00
1"	$20.00	$20.00
1.5"	$40.00	$40.00
2"	$64.00	$64.00
3"	$118.00	$118.00
4"	$196.00	$196.00
6"	$250.00	$250.00
8"	$350.00	$350.00
10"	$550.00	$550.00

San Jose Water Company

Categories	Tiers	Rates*
General	N/A	$1.99
General w/Automatic Fire Sprinkler	N/A	$1.99
Employees***	N/A	Free
Recycled Water	N/A	$1.99

***Rates per HCF**

****Monthly Upsize Charges**

For 1/4-in meter upsize……….$1.39

For 1/2-in meter upsize……….$2.77

For 3/4-in meter upsize……….$4.16

For 1-in meter upsize………… $5.55

*****Employees within SJWC service area that are head of household do not pay for water (they do pay a tax through their paycheck)**

Monthly Service Charge				
	General	**Recycled**	**General w/Fire Sprinkler****	**Private Fire Service**
5/8"	$11.90		$11.90	
3/4"	$11.90		$11.90	
1"	$19.84		$19.84	
1.5"	$39.67		$39.67	
2"	$63.48	$30.00	$63.48	$17.29
3"	$119.02	$40.00		$25.94
4"	$198.37	$45.00		$34.58
6"	$396.74	$75.00		$51.88
8"	$634.78	$90.00		$69.17
10"	$912.50	$140.00		$86.46
12"				$103.75

Santa Clara Water Utility

Categories		Tiers	Rates*
Potable Water Service		N/A	$1.74
Special Conditions			
a. Outside City Limits		N/A	1.5 times regular city rates
b. Agricultural Users		N/A	Credit of $.26 per HCF used
Recycled Water Service		N/A	$1.00
Special Conditions			
a. Outside City Limits		N/A	1.5 times regular city rates
Otherwise Served by a Private Well		N/A	Credit of $.326 per HCF used
c. Industrial Process Water		N/A	Credit of $.234 per HCF used
d. Industrial Process Water Otherwise Served by a private well		N/A	Credit of $.817 per HCF used, plus a fixed rate of $50.00 per month
Fire Services**		N/A	N/A
Cross Connection Control		N/A	N/A

**Rates per HCF*

***Monthly meter standby service charge*

Potable Monthly Service Charge

Potable Water		Fire Service	Cross Connection Controls
5/8"	$5.60		
3/4"	$5.60		
1"	$8.90		$6.10
1.5"	$15.70		
2"	$22.20	$7.80	$11.60
3"	$63.60		$15.70
4"	$89.10	$12.30	$20.00
6"	$174.90	$20.60	$28.90
8"	$269.70	$31.20	$35.60
10"	$333.10	$45.60	$42.30
12"	$427.90	$63.60	

Recycled Monthly Service Charge

Recycled Water		Fire Service	Cross Connection Controls
5/8"	$5.40		
3/4"	$5.40		
1"	$8.60		$5.90
1.5"	$15.20		
2"	$21.60	$7.60	$11.30
3"	$61.70		$15.20
4"	$86.50	$11.90	$19.40
6"	$169.80	$20.00	$28.10
8"	$261.80	$30.30	$34.60
10"	$323.40	$44.30	$41.10
12"	$415.40	$61.70	

Sunnyvale

Categories	Tiers	Rates*
Monthly Residential	0-6	$1.0118
	7-33	$1.9596
	34-50	$2.0873
	51+	$2.1500
Monthly Apartment	0-4	$1.0118
	5-23	$1.9596
	24-35	$2.0873
	36+	$2.1500
Monthly Commercial, Industrial, Fire Line and New Construction	0-6	$1.0118
	7-20	$1.9596
	21-50	$2.0873
	51-500	$2.1500
	501-1250	$2.2058
	1251-2500	$2.2657
	2501+	$2.3190
Bi-Monthly Residential	0-12	$1.0118
	13-66	$1.9596
	67-100	$2.0873
	101+	$2.1500
Bi-Monthly Apartment	0-8	$1.0118
	9-46	$1.9596
	47-70	$2.0873
	71+	$2.1500
Bi-Monthly Commercial, Industrial, Fire Line and New Construction	0-12	$1.0118
	13-40	$1.9596
	41-100	$2.0873
	101-1000	$2.1500
	1001-2500	$2.2058
	2501-5000	$2.2657
	5001+	$2.3190

Meter Service Charge		
	Monthly	**Bi-Monthly**
5/8"	$3.38	$6.76
3/4"	$3.86	$7.72
1"	$6.41	$12.82
1.5"	$10.14	$20.28
2"	$16.79	$33.58
3"	$30.20	$60.40
4"	$38.64	$77.28
6"	$65.21	$130.42
8"	$128.00	$256.00
10"	$166.64	$333.28
12"	$216.15	$432.30

***Rates per HCF**

Stanford Utilities

Categories	Tiers	Rates*
Domestic	N/A	$4.600
Irrigation	N/A	$2.660

***Rates per 1000 gallons**

Appendix J

Retail Water Company

Contact List

SCVWD Water Retailers - Water Conservation Contacts

Retailer	Contact	Address	Phone Number	Email
California Water Service Company	Melinda Ray	949 B Street, Los Altos, CA 94024	650-917-0152	mray@calwater.com
	Candida Rocha	1720 N. 1st St. San Jose, CA 95112	408-367-8230	crocha@calwater.com
City of Gilroy	Lisa Jensema	7351 Rosanna St Gilroy, CA 95020	408-846-0460	ljensema@ci.gilroy.ca.us
City of Milpitas	Joanne Johnson	455 E. Calavera Blvd Milpitas, CA 95035	408-586-3077	jojohnson@ci.milpitas.ca.gov
City of Morgan Hill	Tony Eulo	17555 Peak Ave. Morgan Hill, CA 95037	408-779-7247	teulo@morgan-hill.ca.gov
City of Mountain View	Dave Surge	231 N. Whisman Rd Mountain View, CA 94039	650-903-6317	dave.serge@ci.mtnview.ca.us
	Steve Haren			steve.haren@ci.mtnview.ca.us
City of Palo Alto	Anthony Enerio	P.O. Box 10250 Palo Alto, CA 94303	650-329-2161	anthony.enerio@cityofpaloalto.org
	Kim Brown			kim.brown@cityofpaloalto.org
	Brian Ward			brian.ward@cityofpaloalto.org
City of Santa Clara	Chris de Groot	1500 Warburton Ave, Santa Clara, CA 95050	408-615-2014	cdegroot@ci.santa-clara.ca.us
City of Sunnyvale	Jim Craig	221 Commercial St. Sunnyvale, CA 94088	408-730-7400	jcraig@ci.sunnyvale.ca.us
	Valeria Rose			rose@ci.sunnyvale.ca.us
Great Oaks Water Company	Alan J. Gardner	23 Great Oaks Blvd Suite L, San Jose, CA 95119	408-227-9540	agardner@greatoakswater.com
	Bob Dartez			bdartez@greatoakswater.com
	John Roeder			jroeder@greatoakswater.com
Purissima Hills Water District	Patrick Walter	26375 Fremont Rd, Los Altos Hills, CA 94022	650-948-1217	pwalter@phwd.dist.ca.us
San Jose Municipal Water System	Mansour Nasser	3025 Tuers Rd, San Jose, CA 95121	408-277-2558	mansour.nasser@sanjoseca.gov
San Jose Water Company	Bob Day	374 Santa Clara St, San Jose, CA 95196	408-279-7801	bob_day@sjwater.com
	Melania Corbin			melania_corbin@sjwater.com
Stanford University Utilities Division	Marty Laporte	327 Bonair Siding, Stanford CA, 94305	650-725-7864	martyl@bonair.stanford.edu
Santa Clara Valley Water District	Hossein Ashktorab	5750 Almaden Exwy, San Jose, CA 95118	408-265-2600	hashktorab@valleywater.org
	Shicha Chander			schander@valleywater.org
	Jerry De La Piedra			gdelapiedra@valleywater.org
	Kevin Galvin			kgalvin@valleywater.org
	Jeannine Larabee			jlarabee@valleywater.org
	Karen Morvay			kmorvay@valleywater.org
	Toni Vye			tvye@valleywater.org

Appendix K

BMP 13

Summary by Retail Water Company

Appendix K

BMP 13 – Water Waste Prohibition Summary for Santa Clara County

City of Gilroy – No electronic link

- **Sec. 27.11. Use of water by consumer; leaks; wasting water.**

No consumer shall supply water to any person other than the occupants of the premises of such consumer; provided, however, that such consumer may supply water to such persons for the use on the premises or in the performance of any contract for the improvement of any street or other public place after having given notice and received permission from the director of the department of public works. No consumer shall permit leaks or waste water (Ord. No. 479, § 3)

City of Morgan Hill

http://www.bpcnet.com/codes/morganhill/ : Click on the **Title 13 Public Services** link .

Title 13 PUBLIC SERVICES

Section 13.04.330 Wasting of water.

It is unlawful for any person to waste water or allow it to be wasted by imperfect or leaking stops, valves, pipes, closets, faucets or other fixtures or to use water closets without self-closing valves, or to use the water for purposes other than those named in the application upon which rates for water are based, or to use it in violation of any provision of this chapter. (Ord. 30 N.S. § 4.10, 1948)

Appendix K

City of Sunnyvale :

http://ordlink.com/codes/sunnyval/index.htm

Chapter 12.34. WATER CONSERVATION RESTRICTIONS

12.34.010. Purpose and application.

12.34.020. Nonessential uses prohibited.

12.34.030. Exceptions.

12.34.040. Penalty--Flow restricting devices.

12.34.050. Implementation.

12.34.060. Notices.

12.34.070. Violations.

12.34.080. Remedies cumulative.

12.34.010. Purpose and application.

The purpose of this chapter is to identify and restrict nonessential water uses which, if allowed, would constitute wastage of the water supply of the city. The provisions of this chapter shall apply to all persons or entities using water obtained from the city of Sunnyvale both in and outside the city of Sunnyvale and within the city's water service area, and regardless of whether any person or entity using water has a contract for water service with the city. Use of water by the city itself shall be in conformance with a water conservation plan to be presented by the city manager to the city council for approval, and which shall essentially conform to the provisions of this chapter. This chapter is adopted pursuant to the provisions of Water Code Section 350, et seq., the city charter and the common law. (Ord. 2433-93 § 1 (part)).

12.34.020. Nonessential uses prohibited.

The following uses, methods, types or techniques of uses of water are hereby determined and declared nonessential, and except as expressly provided to the contrary, are hereby prohibited:
(a) Allowing or maintaining broken or defective plumbing, sprinklers, watering or irrigation systems which permit the escape or leakage of potable water.
(b) Using potable water in any manner which causes, allows or permits the flooding of any premises, or any portion thereof, or which causes, allows or permits water to escape from any

premises or any portion thereof and flow into gutters, streets, or any surface water drainage system.
(c) Using any hose or similar device using potable water for washing automobiles, trucks, buses, boats, trailers, equipment, recreational vehicles, mobile homes or other vehicles or machinery, unless the hose or device is equipped with a positive automatic shutoff valve.
(d) Using potable water to wash sidewalks, driveways, filling station aprons, patios, parking lots, porches or other paved or hard surfaced areas, unless there is a positive automatic shutoff valve on the outlet end of the hose.
(e) The service of water by any restaurant or other eating or refreshment establishment to any patron, except upon the specific request by a patron for such services.
(f) Installation of any single pass cooling process in new construction.
(g) Any use of non-potable water not in compliance with all federal, state and local laws, rules and regulations. Use of reclaimed water from the city's water pollution control plant shall be subject to the discretion of the director of public works. (Ord. 2433-93 § 1 (part)).

12.34.030. Exceptions.

(a) The director of public works is hereby authorized to grant to any user an exception to the prohibitions set forth in Section 12.34.020, upon a finding by the director that such exception is necessary to prevent an emergency condition affecting the health, sanitation or fire protection of such user, and that the user to whom such adjustment or exception pertains has adopted or used all practicable water conservation measures.
(b) Exceptions permitted hereunder shall be made only upon written application submitted to the director setting forth a statement of justification for such exception. The director may attach conditions, specifications or other qualifying provisions to any exception granted. (Ord. 2433-93 § 1 (part)).

12.34.040. Penalty--Flow restricting devices.

(a) Upon a determination by the director of public works that a user has continuously or repeatedly violated or failed to comply with one or more provisions of Section 12.34.020, or of any conditions of any exception granted pursuant to the provisions of Section 12.34.030, the director may issue an order to cease and desist from continued or repeated violation, and further order such user to comply forthwith with such provisions or terms of exception, or otherwise to take appropriate remedial or preventive action. If after the issuance of such cease and desist order, such user continues to consume or use, or again consumes or uses water in violation of any such provision or condition of exception, the director may order the installation of a flow restricting device upon the water service line to the premises of such user. Such flow restricting device shall be installed and maintained for a period of not less than three days nor more than ten days for a first violation, and shall be installed and maintained for not less than ten days for each succeeding violation, and may be ordered to remain installed and maintained for a period of up to three months upon a finding by the director that any user is habitually in

violation of any of the provisions of this chapter, or the provisions of any exception granted pursuant to Section 12.34.030.

(b) Prior to installation of any such flow restricting device, the director shall give written notice of intent to install such device, including the reasons for the proposed installation. The notice shall specify the date, time and place at which the user or other interested party may appear before the director to present any evidence or reasons why such installation should not occur. Instead of appearing, the user or other interested party may present written material to the director at or before the time specified. The installation of a flow restricting device shall not occur less than twenty-four hours after the time specified in the notice. The written notice shall be delivered personally, or by posting with the United States mail service, first class postage prepaid, certified mail, and addressed to the last known address of the user to whom given. Copies of the notice shall also be delivered personally or by mail as specified above, to the owner of the property on which the flow restrictor is proposed to be installed as shown on the last equalized assessment roll of the county assessor, county of Santa Clara, and to the person or entity shown on the latest city records as being responsible for payment of utility charges on such property, if either or both is different from the user to whom the notice is sent.

(c) There are hereby established, and there shall be imposed and levied charges in the amount of fifty dollars for each installation and fifty dollars for each removal of flow restricting devices under this section. (Ord. 2433-93 § 1 (part)).

12.34.050. Implementation.

The director of public works is authorized to delegate authority granted under this chapter to such deputies, officers, employees or agents of the city as the director shall designate, and to establish such rules, regulations and procedures, and to prepare or furnish such forms as the director deems necessary or appropriate to carry out the provisions of this chapter. (Ord. 2433-93 § 1 (part)).

12.34.060. Notices.

Except as otherwise provided, notices required to be given pursuant to the provisions of this chapter shall be in writing, may be combined with water service bills or other written communication, and shall be delivered personally, or by posting with the United States mail service, first class postage prepaid, and addressed to the last known address of the user to whom given, or to the owner of the premises to which the water service of such user pertains, shown on the last equalized assessment roll of the county assessor, county of Santa Clara. (Ord. 2433-93 § 1 (part)).

12.34.070. Violations.

It is unlawful for any person, firm, partnership, association, corporation or political entity to use water obtained from the water system of the city of Sunnyvale in violation of any provision of this *chapter or in violation of the conditions of any exception granted pursuant to Section 12.34.040 of this chapter. Use of water by any user in accordance with the provisions of any exception granted by the director shall not be deemed in violation of this chapter. Violations of this chapter shall be punishable as infractions. (Ord. 2433-93 § 1 (part)).*

12.34.080. Remedies cumulative.

The remedies and penalties provided for in this chapter shall be cumulative and not exclusive, and shall be in addition to any or all other remedies available to the city. (Ord. 2433-93 § 1 (part)).

City of Mountain View

http://bpc.iserver.net/codes/mtnview/index.htm : Click on the **Chapter 35 Water, Sewage, and Other Municipal Services** link

DIVISION 3. WATER CONSERVATION.*

SEC. 35.28.3. Prohibition of nonessential water use.

SEC. 35.28.4. Nonessential water uses defined.

SEC. 35.28.5.1. Exceptions.

SEC. 35.28.6. Enforcement.

SEC. 35.28.6.1. Installation of flow-restricting devices as enforcement.

SEC. 35.28.6.2. Charges for installation and removal of flow-restricting devices.

SEC. 35.28.6.3. Installation of flow-restricting devices--Time periods.

SEC. 35.28.7. Discontinuance of water service.

SEC. 35.28.8. Penalties.

SEC. 35.28.8.1. Violations as an infraction.

SEC. 35.28.8.2. Administrative penalties.

SEC. 35.28.9--35.28.11 Repealed by Ord. No. 1.93, 4/13/93.SEC. 35.28.12--35.28.16. Repealed by Ord. No. 5.78, 2/14/78.

SEC. 35.17. Right to limit amount of water furnished.

The director of public works shall have the right to limit the amount of water furnished to any consumer, should the circumstances reasonably warrant such action, even though no limit be stated in the application or permit for such use. (Code 1938, Sec. 144; Ord. No. 175.809, 10/29/62.)

SEC. 35.28.3. Prohibition of nonessential water use.

Any of the nonessential water uses as defined in Section 35.28.4 are prohibited.

SEC. 35.28.4. Nonessential water uses defined.

The following uses of potable water are hereby determined to be nonessential, except as further provided herein.

SEC. 35.28.4.1. Use of potable water through any meter when the customer has been given ten (10) days' written notice by the director to repair broken or defective plumbing, sprinkler, watering, or irrigation systems and has failed to effect such repairs. The failure of any customer to effect said repairs after said written notification by director shall constitute grounds for immediate discontinuance of water service.
SEC. 35.28.4.2. Use of potable water which results in flooding or run-offs in gutters, sidewalks, driveways, streets, highways, roads or other hard-surfaced areas.
SEC. 35.28.4.3. Use of water through a hose for the cleaning of sidewalks, driveways, patios, parking lots or other paved or hard-surfaced areas and for washing cars, buses, boats, trailers, or other vehicles without a positive automatic shutoff valve on the outlet end of the hose.
SEC. 35.28.4.4. Use of potable water for restaurant water service unless upon request.
SEC. 35.28.4.5. Use of potable water in single-pass cooling systems. (Ord. No. 11.89, 6/13/89; Ord. No. 8.91, 5/14/91; Ord. No. 1.93, 4/13/93.)
SEC. 35.28.5. Exceptions; Hearing; Appeal.
The procedures for exceptions, hearings and appeals shall be as set forth below. (Ord. No. 1.93, 4/13/93.)

SEC. 35.28.5.1. Exceptions.

Written applications for an exception or adjustment to the provisions of this division shall be made to the director. Within ten (10) days after receiving an application for an exception or adjustment, the director shall hold a hearing with the applicant. (Ord. No. 11.89, 6/13/89; Ord. No. 8.91, 5/14/91; Ord. No. 1.93, 4/13/93.)

SEC. 35.28.5.2. Hearing.

The applicant shall be notified of the date and time of said hearing. At the hearing, the director shall consider the following criteria:
(a) Whether the customer had previously adopted all practical water conservation measures;
(b) Whether failure to grant the application would cause an emergency condition adversely affecting the health, sanitation, fire protection or safety of the customer or the public; or
(c) Whether undue hardship would result to the applicant if the application were denied or the flow-restricting device were installed, including adverse economic impact such as loss of production or loss of jobs.
Within ten (10) days after the hearing, the director shall notify the applicant in writing of his decision by certified mail. (Ord. No. 11.98, 6/13/89; Ord. No. 8.91, 5/14/91; Ord. No. 1.93, 4/13/93.)

SEC. 35.28.5.3. Appeal.

Denials of any application for an adjustment or exception or a decision of the director to install a flow-restricting device may be appealed to the city council, whose decision shall be final. An application for an appeal shall be filed with the city clerk in writing within ten (10) calendar days after the director's decision and shall state the specific grounds for the appeal. The city council shall hear the appeal within thirty (30) calendar days after the appeal has been filed with the city clerk. In considering said appeal, the council shall be governed by the same criteria as set forth in subsections (a), (b) and (c) of Section 35.28.5.2 hereinabove. (Ord. No. 11.89, 6/13/89; Ord. No. 8.91, 5/14/91; Ord. No. 1.93, 4/13/93.)

City of Milpitas :

http://municipalcodes.lexisnexis.com/codes/milpitas/

VIII-6-3.00 Restrictions

The following uses of potable water are prohibited:
3.01 Use that results in flooding or runoff in gutters, waterways, patios, sidewalks, driveways, or streets except as permitted in Section 3.02 A and B.
3.02 Use without a shutoff nozzle on the outlet end of the hose for:
A. Washing cars, buses, boats, aircraft, trailers or other vehicles;
B. Washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas; and
C. Watering outside plants, lawn, landscape and turf areas.
3.03 Service of water by any restaurant except upon the request of a customer.
3.04 Use through broken or defective plumbing, sprinkler, watering or irrigation systems.
3.05 Use in new, added or altered commercial car wash equipment unless a recycled water system is incorporated.
3.06 Use in new, added or altered cooling system equipment unless at least fifty percent (50%) of the water is recycled. A waiver to allow less than fifty percent (50%) recycling may be granted by the Chief Building Official due to water quality concerns only. Cost is not an acceptable reason to request or receive a waiver.
3.07 Use for irrigation if reclaimed water is available.
3.08 Use in new, added, or altered decorative fountains unless a recycled water system is incorporated. (Ord. 240 (part), 5/3/94)

- Water Efficient Landscape Ordinance
- Water Conservation Ordinance
- Water Meter Loan Program – City will loan water meters to commercial and industrial customers to help identify areas of potential water savings.
- Full text of ordinances can be found on City of Milpitas website- *http://municipalcodes.lexisnexis.com/codes/milpitas/*

Milpitas Municipal Code

Chapter 6 WATER CONSERVATION

VIII-6-1.00 Purpose

The City Council of the City of Milpitas has found that the limited supply of City waters are subject to ever increasing demands; that the City's economic prosperity depends on adequate supplies of water; and that the City policy promotes conservation and efficient use of potable water.

Consistent with the above findings, the purpose of this chapter is to promote the values and benefits of conservation and efficient use of potable water; and establish provisions for water management practices and prevention of potable water waste. (Ord. 240 (part), 5/3/94)

VIII-6-2.00 Definitions

The words used in this chapter have the meaning set forth below:
2.01 "Reclaimed Water" means treated or recycled wastewater of a quality suitable for non-potable uses and not intended for human consumption.
2.02 "Runoff" means water that is not absorbed by the surface to which it is applied and flows from the area.
2.03 "Potable Water" means water sold by the City of Milpitas intended for human consumption. (Ord. 240 (part), 5/3/94)

VIII-6-3.00 Restrictions

The following uses of potable water are prohibited:
3.01 Use that results in flooding or runoff in gutters, waterways, patios, sidewalks, driveways, or streets except as permitted in Section 3.02 A and B.
3.02 Use without a shutoff nozzle on the outlet end of the hose for:
A. Washing cars, buses, boats, aircraft, trailers or other vehicles;
B. Washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas; and
C. Watering outside plants, lawn, landscape and turf areas.
3.03 Service of water by any restaurant except upon the request of a customer.
3.04 Use through broken or defective plumbing, sprinkler, watering or irrigation systems.
3.05 Use in new, added or altered commercial car wash equipment unless a recycled water system is incorporated.
3.06 Use in new, added or altered cooling system equipment unless at least fifty percent (50%) of the water is recycled. A waiver to allow less than fifty percent (50%) recycling may be granted by the Chief Building Official due to water quality concerns only. Cost is not an acceptable reason to request or receive a waiver.
3.07 Use for irrigation if reclaimed water is available.
3.08 Use in new, added, or altered decorative fountains unless a recycled water system is incorporated. (Ord. 240 (part), 5/3/94)

VIII-6-4.00 Water Meter Loan Program

Water meters shall be made available by the City to loan to industrial and commercial customers for use in water audits. The industrial and commercial customers shall use the meters to conduct audits in various segments of their plant or process for identifying and implementing water conservation measures. (Ord. 240 (part), 5/3/94)

City of San Jose – San Jose Municipal Water System

http://www.amlegal.com/sanjose_ca/

Part 2
WATER WASTE PREVENTION

Sections:

15.10.200 **Water waste prevention.**

15.10.210 **Repair of plumbing, sprinkler and irrigation systems.**

15.10.220 **Water run-off prohibited.**

15.10.230 **Restaurants, banquet facilities, hotels and dining facilities.**

15.10.240 **Cleaning of structures and surfaces.**

15.10.250 **Washing of vehicles.**

15.10.255 **Commercial car washes.**

15.10.260 **Building and construction.**

15.10.270 **Hydrants.**

15.10.290 **Landscape irrigation.**

15.10.295 **Use of reclaimed water.**

15.10.200 Water waste prevention.

A. The regulations in this part are intended to be permanent water conservation measures and to apply to the use of water from all sources on an on-going basis.

B. No person shall waste water from any source nor shall any person allow such water wastage.

C. No person shall use any water from any source, or continue the use of any water from any source, in any way prohibited by this chapter.

(Ord. 24600.)

15.10.210 Repair of plumbing, sprinkler and irrigation systems.

A. No owner or manager or other person responsible for the day-to-day operation of any premises shall fail to initiate repair of any leaking, broken or defective water pipes, faucets, plumbing fixtures, other water service appliances, sprinklers, watering or irrigation systems within five (5) working days after the owner, manager or other responsible person knew or should have known of such leaks, breaks or defects.

B. No owner or manager or other person responsible for the day-to-day operation of any premises shall fail to complete repair of any leaking, broken or defective water pipes, faucets, plumbing fixtures, other water service appliances, sprinklers, watering or irrigation systems, as soon as practical after initiation of such repair.

(Ord. 24600.)

15.10.220 Water run-off prohibited.

A. No person shall use any water in any manner which results in run-off onto sidewalks, driveways, gutters or streets, except for water used in accordance with Sections 15.10.240 or 15.10.250.

B. No person shall use any water in any manner which results in run-off beyond the immediate area of use, or the pooling or puddling of water, except for water used in accordance with Sections 15.10.240 or 15.10.250.

(Ord. 24600.)

15.10.230 Restaurants, banquet facilities, hotels and dining facilities.

No person shall provide any water to any customer at any restaurant, banquet facility, hotel or commercial dining facility unless and until the customer requests water.

(Ord. 24600.)

15.10.240 Cleaning of structures and surfaces.

No person shall use water through a hose to clean the exterior of any building or any structure or to clean sidewalks, driveways, patios, decks, tennis courts, parking lots or any other exterior paved or hard-surfaced areas, unless such hose is equipped with an automatic positive self-closing valve.

(Ord. 24600.)

15.10.250 Washing of vehicles.

No person shall use any water through a hose to wash any car, truck, boat, trailer, bus, recreational vehicle, camper, or any other vehicle, or any portion thereof, unless such hose is equipped with an automatic positive self-closing valve.

(Ord. 24600.)

15.10.255 Commercial car washes.

No owner, manager or employee of a commercial car wash facility shall use any water to wash, or allow or permit the use of any water to wash, any car, truck, boat, trailer, bus, recreation vehicle, camper or any other vehicle, or any portion thereof, except if such person can demonstrate that such washing is exclusively by one of the following methods:

A. Use of mechanical automatic car wash facilities utilizing water recycling equipment.

B. Use of a bucket and handwashing.

C. Use of a hose equipped with an automatic positive self-closing valve.

(Ord. 24600.)

15.10.260 Building and construction.

No person shall use, permit or allow the use of potable water for building or construction purposes, such as consolidation of backfill or dust control, without a prior approved written exception from the city.

(Ord. 24600.)

15.10.270 Hydrants.

No person, except a water company for the purpose of necessary hydrant or water distribution system maintenance, or under the direction of the city's fire chief for firefighting or fire sprinkler maintenance, shall use, permit or allow the use of any water or flushing of any water from any fire hydrant, without a prior approved written exception from the city.

(Ord. 24600.)

15.10.290 Landscape irrigation.

A. No person shall use, permit or allow the use of potable water to irrigate any outdoor landscaping at any time between the hours of 8:00 a.m. and 6:00 p.m. during Pacific Daylight Savings Time, or between the hours of 10:00 a.m. and 3:00 p.m. during Pacific Standard Time, unless the person using or allowing the use of the water is using a bucket, hand-carried container, or a hose equipped with an automatic positive self-closing valve.

B. The restrictions on landscape irrigation contained in this section do not apply to the following activities:

1. Syringing of golf course greens, golf course tees, lawn bowling greens or lawn tennis courts;

2. The conduct of a landscape water management audit to provide for the evaluation and adjustment of a landscape irrigation system.

(Ord. 24600.)

15.10.295 Use of reclaimed water.

No person shall use, permit or allow the use of potable water to irrigate any outdoor landscaping, where an irrigation system has been installed to allow for use of reclaimed water and reclaimed water is available to the property for irrigation use.

(Ord. 24600.)

- Muni Water System is the City's only water retailer. In addition to the inverted four-tier rate incentives Lisa Turner reported to you earlier, MWS also audits the meter readings they take:
    - They send courtesy letters (and sometimes dye tablets) to those customers with unusually high water readings, and recheck meter readings when circumstances warrant.

City of Santa Clara :

http://www.ci.santa-clara.ca.us/community/municipal_utilities_.html

- 1.C **WATER USE RESTRICTIONS AND PROHIBITIONS** The following list of Water Use Restrictions and Prohibitions are specific measures which prevent water waste and achieve reasonable, yet substantial, reductions in water use by all users in the City. The following uses of water are prohibited by the City:
  a) Wasting water, which includes but is not limited to, the flooding or runoff on City sidewalks, gutters, and streets.
  b) Cleaning of sidewalks, driveways, patios, parking lots, or other paved or hard-surfaced areas, or washing cars, buses, boats, trailers, or any vehicle by use of a hose unless that hose is fitted with an operating automatic shut-off valve.
  c) Water waste due to broken or defective plumbing, fire system, irrigation system, or any appurtenance thereto; or to open or to leave open any stopcock or faucet so as to permit water waste.
  d) Service of water by any restaurant unless requested by a patron.
  e) Installation of a single-pass cooling system.
  f) Installation of a non-recirculating, decorative fountain.
  g) Construction of a non-recirculating conveyor car wash.

  - The administrative penalties authority is located in the Santa Clara Municipal Code. The link below should take you to the administrative penalty section of their ordinance.
    http://nt5.scbbs.com/cgi-bin/om_isapi.dll?clientID=264495&infobase=santaclara.nfo&jump=1.10&softpage=PL_frame#JUMPDEST_1.10

Appendix K

City of Cupertino
http://www.amlegal.com/nxt/gateway.dll/California/cupertino/title15waterandsewage/chapter1532waterconservation?f=templates$fn=altmain-nf.htm$3.0#JD_Chapter15.32

CHAPTER 15.32: WATER CONSERVATION

Section

15.32.010 Findings and determinations.

15.32.020 Definitions.

15.32.030 Prohibitions on water use.

15.32.050 Emergency suspension of water service.

15.32.060 Violation–Penalty.

15.32.010 Findings and Determinations.

A. The 1993 water supply available to Santa Clara County markedly exceeds that of the previous six years of droughts; and

B. Since 1989, the citizens of Santa Clara County have responded admirably to the mandatory water conservation programs requested and implemented by the Board of Directors of the Santa Clara Valley Water District; and

C. With continued good conservation practices, implementation of ultra low flush toilet rebate and other plumbing retrofit programs, further development and refinement of the water efficient landscaping ordinances, landscape guidelines, reclamation projects, and other best management practices, 1993 countywide conservation efforts are anticipated to result in a ten percent to twenty percent reduction in water usage as compared to 1987 usage. (Ord. 1622, (part), 1993; Ord. 1587, (part), 1992; Ord. 1580, (part), 1992; Ord. 1558, § 1, 1991; Ord. 1524, § 1, 1990; Ord. 1513, § 1, 1990)

15.32.020 Definitions.

As used in this chapter

A. "Customer" means any person who pays for service to the Cupertino Municipal Water Utility.

B. “Person” means any individual, firm, partnership, association, corporation, trust, governmental body or other organization or entity.

C. “Water” means potable water.

D. “Water provider” means the California Water Service and/or San Jose Water Company. (Ord. 1776, (part), 1998; Ord. 1622, (part), 1993: Ord. 1587, (part), 1992; Ord. 1580, (part), 1992; Ord. 1558, § 2, 1991; Ord. 1524, § 2, 1990; Ord. 1513, § 2, 1990)

15.32.030 Prohibition on Water Use.

The following water uses shall be prohibited throughout the City until such time as a declaration is officially made by the Santa Clara Valley Water District that a drought condition no longer exists within Santa Clara County.

A. No person shall waste water, including, but not limited to flooding or runoff on sidewalks or gutters.

B. No person shall use water through a hose for washing motor vehicles or recreation vehicles or other types of vehicles without a positive automatic shutdown valve on the outlet end of the hose.

C. No person shall waste water through the nonrepair of defective plumbing, sprinkler, watering or irrigation systems.

D. No restaurant shall serve water unless specifically requested by a customer.

E. No person shall use water for single pass cooling process for new building construction.

F. New landscaping to conform to City’s Xeriscape Guidelines. (Ord. 1622, (part), 1993; Ord. 1587, (part), 1992; Ord. 1580, (part), 1992; Ord. 1558, § 3, 1991; Ord. 1524, § 3, 1990; Ord. 1513, § 3, 1990)

15.32.050 Emergency Suspension of Water Service.

In the event of an emergency involving broken or defective plumbing, sprinkler, watering or irrigation systems where in the opinion of the Public Works Director water is being or will be lost in considerable quantity, the City may require that the water provider immediately suspend water service without notice or hearing to any customer pending repairs. The water provider shall attempt to give notice to the customer or customers affected as soon as practical. Subject to other provisions of this chapter, service shall be restored as soon as possible. (Ord. 1622, (part), 1993; Ord. 1587, (part), 1992:

15.32.060 Violation–Penalty.

Any person who violates any provision of this chapter shall be guilty of a misdemeanor and upon conviction thereof shall be punished as provided in Chapter 1.12 of this code. (Ord. 1776, (part), 1998; Ord. 1622, (part), 1993;

Ord. 1587, (part), 1992; Ord. 1580, (part), 1992; Ord. 1558, § 4.01, 1991; Ord. 1524, § 4.01, 1990; Ord. 1513, §4.01, 1990)

Disclaimer:
This Code of Ordinances and/or any other documents that appear on this site may not reflect the most current legislation adopted by the Municipality. American Legal Publishing Corporation provides these documents for informational purposes only. These documents should not be relied upon as the definitive authority for local legislation. Additionally, the formatting and pagination of the posted documents varies from the formatting and pagination of the official copy. The official printed copy of a Code of Ordinances should be consulted prior to any action being taken.

For further information regarding the official version of any of this Code of Ordinances or other documents posted on this site, please contact the Municipality directly or contact American Legal Publishing toll-free at 800-445-5588.

City of Campbell
http://municipalcodes.lexisnexis.com/codes/campbell/_DATA/TITLE08/Chapter_8_34_POTABLE_WATER_USE_RES/index.html

Title 8 PUBLIC PEACE, SAFETY AND MORALS*
Chapter 8.34 POTABLE WATER USE RESTRICTIONS

8.34.010 Purpose.
The city council finds and determines that the purposes in adopting this chapter are to wisely manage our water resources, practice voluntary efficient water use, avoid water waste and to preserve the health and safety of the people of this municipality. (Ord. 1868 §1(part), 1993).
8.34.020 Potable water use restrictions.
It shall be unlawful to make any of the following uses of potable water:
1. Water waste, consisting of flooding or runoff on sidewalks or gutters;
2. Use of water through a hose for cleaning of sidewalks, driveways, patios, parking lots, or other paved or hard surface areas, and for washing cars, buses, boats, trailers, or other vehicles without a positive automatic shutoff valve on the outlet end of the hose;
3. Water waste due to broken or defective plumbing, sprinkler, watering or irrigation systems;
4. Single-pass cooling systems installed after the effective date of the chapter. (Ord. 1868 §1(part), 1993).
8.34.030 Penalty.
(a) It is unlawful for any person, firm or corporation to violate any provision, or fail to comply with any mandatory requirement of this chapter. Except as otherwise provided in subsection (b) of this section, any entity violating any provision, or failing to comply with any mandatory

requirement of this chapter is guilty of an infraction, and upon conviction shall be punished by a fine of not more than one hundred dollars.
(b) Notwithstanding any provision to the contrary, any person, firm or corporation committing any act made unlawful pursuant to subsection (a) of this section shall be guilty of a misdemeanor and upon conviction shall be punished by a fine of not more than one thousand dollars and/or imprisonment of not more than six months, if any of the following circumstances exists:
(1) The violation was committed wilfully or with knowledge of its illegality;
(2) The violator does not cease or otherwise abate the violation after receiving notice of such violation;
(3) The violator has previously been convicted of violating the same provision of this title within one year of the currently charged violation; or
(c) Each person, firm or corporation violating any provision, or failing to comply with the mandatory requirements of this chapter shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of any provision of this chapter is committed, continued or permitted by such person, firm or corporation, and shall be punishable as provided in this section. (Ord. 1868 §1(part), 1993).

City of Saratoga
http://municipalcodes.lexisnexis.com/codes/saratoga/_DATA/TITLE15/Article_15_47_WATER_EFFICIENT_LAND/index.html

15-47.040 Water waste prevention.

The City of Saratoga shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, nonirrigated areas, walks, roadways, or structures. Penalties for violation of these prohibitions shall be established by the City. (Ord. 71.116 § 1 (part), 1992)

The following Water Retailers are not municipalities and although they support water conservation they do not have the authority to enact an ordinance:

California Water Service Company - http://www.calwater.com/Conservation.aspx
California Water Service Company is located within the cities of Cupertino (see below) and Los Altos (no ordinance found).

Great Oaks Water Company - http://www.greatoakswater.com/
Great Oaks Water Company is covered by the City of San Jose's ordinance (see above)

The San Jose Water Company - http://www.sjwater.com/conservation/index.jsp
San Jose Water Company is located within the cities of San Jose (see above), Cupertino (see below), Campbell (see below), Saratoga (see below), Los Gatos (no ordinance found), and Monte Sereno (no ordinance found).

The following Water Retailers do not receive District water however their ordinances are provided for information only

Purissima Hills Water District – (does not receive District water)

http://www.guidetogov.org/ca/scl/dis/prhwd/ - Purrissima Hills has passed Resolution No. 2005-3, Adopting Plan For Determining Water Allocations In A Water Shortage Emergency, and includes the following language:

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Purissima Hills Water District adopts a Water Shortage Emergency Plan for determining water allocations in a water shortage emergency as follows:

A. **Methodology**. This Water Shortage Emergency Plan is intended for water shortage emergency situations when the SFPUC imposes a water reduction of up to 20% to the suburban purchasers. The methodology for determining the District customers' water allocation in a water shortage emergency involves the following factors: (1) each customer's historical usage; (2) a baseline water allocation for water use for essential functions; and (3) a monthly water allocation cap.

B. **Definitions**. The following definitions apply to this Water Shortage Emergency Plan:

1. Unit - 100 cubic feet, or 748 gallons.
2. Historical Usage - A five year average of a customer's water use, based on the billing record for the period from January 1, 2000 through December 31, 2004. For purposes of this Resolution, the customer's Historical Usage is separated into Winter Usage Months and Summer Usage Months.

3. Winter Usage Months - November 1 through April 30.
4. Summer Usage Months - May 1 through October 31.
5. Baseline - The Winter Usage baseline is 10 Units per month. The Summer Usage baseline is 20 Units per month.
6. Cap - The maximum water allocation during a water shortage emergency. The Winter Usage cap is 30 Units per month. The Summer Usage cap is 120 Units per month.
7. Allocation - Z, or number of Units available to each District customer during a water shortage emergency, based on applying the formula below to each customer's Historical Usage, not to exceed the Cap.

C. **Formula**. The formula for determining each District customer's water allocation in a water shortage emergency is as follows:

1. Step 1. Historical Usage minus Baseline = X.
2. Step 2. X multiplied by 50% = Y.
3. Step 3. Y plus Baseline = Z, customer's Allocation.

D. **Enforcement**. During a water shortage emergency, the District will evaluate and implement procedures to enforce violations of the water allocations determined at the time a water shortage emergency is declared. At that time, the District will consider such enforcement alternatives as increasing water rates and charging penalties, prohibiting or limiting new or enlarged water service connections, installing water use restrictors, and discontinuing water service.

Stanford University – (does not receive District water)

http://facilities.stanford.edu/environment/
Stanford University is not a city government so it does not have the ability to pass an ordinance, however the enclosed water conservation requirements are on the plans review checklist for the University for new buildings and renovations.

a. Water Conservation for Building Design

Resources such as domestic water shall be conserved. Cooling systems shall not use domestic water to provide "once-through" cooling. Cooling for equipment shall be accomplished using the campus chilled water system with a heat exchanger or a stand-alone, electric drive process chiller with pump. For details, please refer to Facility Design Standard Section 15000-G. Provisions should be made to accommodate research and equipment pressure needs, such as installation of pressure reducing valves.

After January 1, 2003, Non- emergency discharges greater than 200 gallons per day from once-through cooling systems using potable water as a coolant shall not be discharge to the sanitary sewer system, except for once-through cooling water used for bench-top reflux or distillation, or other similar activities, and for short-term use approved by the superintendent. **After January 1, 2006,** non-emergency discharges from once-through cooling systems using potable water as a coolant shall not be discharged to the sanitary sewer system, except for once-through cooling water used for benchtop reflux or distillation, or other similar activities, and for short-term use approved by the superintendent. [P.A Ordinance, 16.09.105)]

City of Palo Alto – (does not receive District water)

http://nt2.scbbs.com/cgi-bin/om_isapi.dll?clientID=233544&infobase=procode-3&softpage=Browse_Frame_Pg
then click on the - Title 12 Public Works and Utilities – link

Chapter 12.32 WATER USE REGULATIONS

Sections:

12.32.010	Water use regulations.
12.32.015	Reserved.
12.32.020	Enforcement.
12.32.030	Reserved.
12.32.040	Water efficient landscape ordinance.

12.32.010 Water use regulations.

No purchaser of water from the city of Palo Alto, nor any customers of the water utility of the city of Palo Alto, shall use water or allow any other person to use water under the control of such customer or purchaser in the following ways:

(a) Potable water shall not be allowed to flood or run off into gutters: driveways, sidewalks, streets or other unlandscaped areas.

(b) By means of a hose to wash cars, boats, trailers, buses or other vehicles or to wash sidewalks, building structures, other hard-surfaced areas or parts thereof without an operating automatic shut-off valve. Use of a hose for such purposes should be avoided whenever possible.

(c) Potable water for consolidation of backfill and other nondomestic uses in construction shall not be used if other water sources such as reclaimed water are available, as determined by the director of utilities or his or her designee. Applicants for hydrant permits from the city of Palo Alto shall be deemed to have consented to restrictions on water use which may be imposed by the director of utilities or his or her designee.

(d) Any broken or defective plumbing, sprinklers, watering or irrigation systems which permit the escape or leakage of water shall be repaired or replaced as soon as possible, but no later than the date established by the director of utilities, or his or her designee, as reasonable after observation of the broken or defective system.

(Ord. **4041** § 1, 1991: Ord. **3964** § 1, 1990: Ord. **3884** § 2 (part), 1989)

12.32.015 Reserved.*

* Editor's Note: Section 12.32.015, pertaining to emergency water use regulations, previously codified herein and containing portions of Ordinance Nos. 3960, 3984 and 4038 was suspended, but specifically not repealed, by Ordinance No. 4150, § 2. In pertinent part, said Section 2 of Ordinance No. 4150 states that Section 12.32.015 is "suspended until such time as water shortage emergency conditions shall be subsequently found, determined, and declared by the Council to exist."

12.32.020 Enforcement.

In addition to enforcing observed violations of this chapter by any person as a misdemeanor or an infraction, the city manager and his designated employees are authorized to enforce the provisions of this chapter against customers and water purchasers of the utility as follows:

(a) Reports of violations shall be called to the attention of the party responsible for the service connection used in the violation and shall be investigated by the utilities department personnel to the extent possible.

(b) Violations established to the satisfaction of the utilities department personnel shall result in the issuance of a written warning to the violator and the party responsible for the service connection used in the violation.

(c) A record shall be kept by the department of utilities of the city of Palo Alto of all violations.

(d) If a second violation is established to the satisfaction of the utilities department personnel, the violator or party responsible for service connection used in the violation, or either of them, shall receive a more severe written warning, advising them of the possibility that their water flow will be restricted.

(e) For any third or subsequent violation by the same violator, customer, or water purchaser, or for any wilful violation, the city manager or his designee may elect to install a flow restrictor upon the service connection of the purchaser or customer at the purchaser's or customer's expense. Prior to installation of the water restrictor, the director of utilities shall give written notice to the person responsible for the service connection, which is to be restricted, of his intention to install a restrictor. The person or persons to whom notice is to be given shall have five business days from the date of service of the notice to request a hearing before the city manager or his designee in order to present any and all evidence they may have as to why a restrictor should not be installed or under what conditions it might be installed.

If a hearing is requested, the city manager or his designee shall schedule a date and time for said hearing as soon as possible after the request is filed, but not later than five business days after the filing or such request for hearing.

At the hearing, the person whose service connection is to be restricted may offer evidence as to why the restrictor should not be installed or under what conditions it might be installed. Utilities personnel shall also be allowed to offer whatever evidence they may have as to why the restrictor should be allowed and under what conditions. The city manager or his designees shall make a determination as to whether the restrictor shall or shall not be installed and what conditions, if any, should pertain.

(f) Upon a determination to install a restrictor after hearing, or the failure of the affected party to request a hearing, the director of utilities, under whatever conditions, if any, he may deem advisable under the circumstances, may install a flow restrictor on the service connection of the customer or purchaser of water whose service connection was used in the violations observed or established and bill the costs of such installation to said customer or purchaser in accordance with the following conditions:

(1) The first installation shall be for a period of three days;

(2) Subsequent installations shall be for a period to be determined by the director of utilities, in an amount sufficient to accomplish the purposes of this chapter. Flow restrictors shall be installed in accordance with water utility rules and regulations and at the following rates which shall be borne by the user:

Meter Size	Installation Cost	Removal Cost
5/8" to 1"	$25.00	$25.00
11/2" to 2"	50.00	50.00
3" and larger	Actual cost	Actual cost

Actual cost will include all material, labor, equipment and overhead charges.
(Ord. 3884 § 2 (part), 1989)

12.32.030 Reserved.*

*	Editor's Note: Section 12.32.030, Maximum Monthly Water Use, previously codified herein and containing portions of Ordinance No. 4041, was suspended, but specifically not repealed, by Ordinance No. 4150, § 2. In pertinent part, said Section 2 of Ordinance No. 4150 states that Section 12.32.030 is "suspended until such time as water shortage emergency conditions shall be subsequently found, determined, and declared by the Council to exist."

12.32.040 Water efficient landscape ordinance.+

Pursuant to the Water Conservation in Landscaping Act, Government Code Section 65591, et seq. as amended, the council will adopt by resolution regulations or standards for landscape water efficiency in the city of Palo Alto.
(Ord. **4162** § 3, 1993: Ord. **4106** § 1, 1992)

+	Editor's Note: Current section 12.32.040, Water Efficient Landscape Ordinance, was adopted by Section 1 of Ordinance No. 4106, and at adoption was numbered as Section 12.32.050. The section was subsequently amended and renumbered to be Section 12.32.040 by Ordinance No.4162. The original Section 12.32.040, Knowing Provision of False Information, previously codified herein and containing portions of Ordinance No. 4041, was repealed in its entirety by said Ordinance No. 4162. For regulations concerning knowing provision of false information, see Section 12.20.020.